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GSCA Film Expo in France, March 20-22

In March, the **Giant Screen Cinema Association** held its annual spring **Film Expo** at the **Futuroscope** theme park near Poitiers, France, in a joint meeting with **Euromax**, the European giant-screen association. The two-day session, attended by more than 170 delegates from 19 countries, was followed by a Dome Day in Paris at **La Géode**, the IMAX Dome theater at the **Cité des Sciences et de l'Industrie**, the largest science center in Europe.

The meeting included screenings of ten new giant-screen films and a short, and presentations on 25 films in production and eight films in development. GS veteran and consultant **Paul Fraser**, of **Blaze Digital Cinema Works**, led two panel discussions focused on domes, one at Futuroscope, the other at La Géode, and GSCA and Euromax held their respective board, committee, and member meetings.

Futuroscope is the European theme park of the moving image, and features five IMAX theaters in different configurations, the world's largest collection at a single site: IMAX 2D (flat screen), IMAX 3D (flat screen), IMAX Dome, IMAX Solido (3D dome), IMAX Magic Carpet (2D flat screen in front, with a second 2D flat screen below, viewed through clear plastic panels on the floor). Futuroscope is the only site in the world with an IMAX Magic Carpet theater. The park also has a 4D motion simulation theater, a 3D digital cinema, and many other attractions, including an outdoor amphitheater that offers nightly laser, light, and water shows.

New films

Of the ten new features presented at the Film Expo, only two had never before been screened at an industry conference: **Stephen Low**'s giant-screen ode to steam trains, ***Rocky Mountain Express***, which opened last fall, and ***Meerkats*** from **National Geographic**, which will be distributed to digital theaters only starting this summer. The remaining eight titles were screened at the GSCA's fall meeting in Austin, TX, although in several cases a title projected digitally in Austin was shown in 15/70 in France, or vice versa. For instance, **Greg MacGillivray**'s ***To the Arctic***, shown as a digital rough cut last fall, was screened as a finer cut in 15/70 at Futuroscope. ***Rescue 3D*** went the other way: film in Texas, digital in France.

The new short was ***Chasing Cotards***, a quirky fictional piece about a man mourning his dead wife, that was shot in VistaVision (8-perf 35mm) and blown up to 15/70 for a May 2010 event at the **BFI IMAX Theatre** in London. (The title, not explained in the film, refers to Cotard's Syndrome, a rare condition in which people believe they are dead or nonexistent.)

*(see **GSCA** on page 6)*

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Film and Digital Dome Convergence

A Reality Check

by Paul Fraser

There has been a lot of talk about "convergence" between film dome theaters and digital fulldome theaters. It's understandable, as almost everyone agrees that all film domes will transition to a digital solution eventually. But what does convergence *really* mean in this context? Is it going to happen, or just wishful thinking? *Should* it happen?

Let's first compare the current large-format film dome and digital fulldome markets.

Film domes

According to the *LF Examiner* database, there are 99 film domes worldwide (66 15/70 screens, 21 with 8/70 projection, and 12 with 10/70 systems), and this number has been declining. (Fifteen of these dome theaters do not meet the **Giant Screen Cinema Association**'s definition of "giant screen" because they fall short of the 60-foot [18-meter] diameter criterion.)

This is a mature, 40-year old business. The first giant-screen dome theater, the **Reuben H. Fleet Science Center**'s OMNIMAX theater in San Diego, opened in 1973. It has recently begun its transition to digital with the installation of a GSX

*(see **DOMES** on page 11)*

Premiering this Month

Titanic 3D
Air Racers 3D: Forces of Flight
To the Arctic

See page 17.

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A Titanic Print

Ron Bartsch of **The Henry Ford IMAX Theatre** in Dearborn, MI, sent us this picture of the 116 rolls of 15/70 film that comprised his theater's print of **James Cameron**'s ***Titanic 3D.*** He reports that it took 12 hours to assemble each eye of the print.

Although the film is being shown in 159 IMAX theaters worldwide, only five of them have 15/70 film projectors. The cost of each print of the 194-minute, 3D film probably exceeds $150,000.

Bartsch says the film is doing "gangbusters" at The Henry Ford, which also has an exhibit of artifacts from the *RMS Titanic*. It will continue to run there until September.

L to r: Matt Naif, Ron Bartsch, Adam Plaskey, three of the theater's five IMAX projectionists.

Change of Address

Effective immediately, the new address for *LF Examiner* and Cinergetics, LLC, is:

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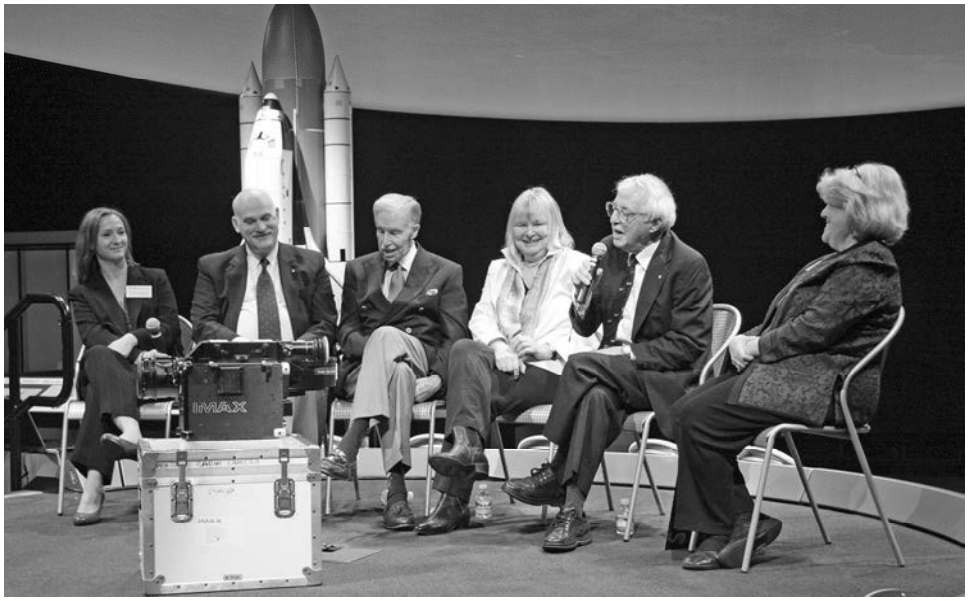
The phone remains 410-997-2780.

Smithsonian Receives IMAX Space Cameras

On April 4, **Imax Corporation** co-founder **Graeme Ferguson** and veteran GS filmmaker **Toni Myers** presented the **Smithsonian's National Air and Space Museum** in Washington, DC, with two IMAX 15/65 2D film cameras that had flown in space aboard various Space Shuttles. The cameras were used to shoot footage for six giant-screen films released between 1985 and 2010, including ***The Dream is Alive*** (1985), ***Space Station*** (2002), and ***Hubble 3D*** (2010).



L to r: NASM curator Jennifer Levasseur, astronaut Bill Readdy, Steve Chaudet of Lockheed Martin, producer Toni Myers, Graeme Ferguson, NASM curator Valerie Neal.

At the presentation, curator **Valerie Neal** recalled that the idea of taking IMAX cameras into space was first raised by NASM's first director, Apollo 11 astronaut **Michael Collins**, shortly after the museum opened in 1976. Eight years later production on *The Dream is Alive* began, the first of six films made by Imax and NASM in cooperation with the **National Aeronautics and Space Administration**, and with funding from **Lockheed Corporation** (which later became Lockheed Martin).

Ferguson recounted the development of the simple but rugged IMAX camera, which he characterized as a "warhorse." Based on a design by Norwegian camera maker **Jan Jacobsen**, and later improved by Imax's **Bill Shaw**, the camera "had no zoom, no autofocus, or autoexposure, which every point-and-shoot camera now has. It was probably the least user-friendly piece of machinery that ever went into space." But it was tried and true, having been used in difficult locations for dozens of ground-based films between 1970 and the early 1980s. He said that although the records weren't clear, there was a good chance that the donated camera had been used to shoot ***To Fly!*** (1976) and ***Grand Canyon*** (1985).

Imax founder Graeme Ferguson with the 2D IMAX cabin camera used on many Space Shuttle missions.

Ferguson said that when NASA agreed to take a camera into space, he and Shaw planned to build a much more sophisticated system for the purpose, and brought the warhorse to Houston to learn what the astronauts would want in an upgraded camera. But astronaut **Bruce McCandless** "changed the world." He said that in space, new, untested equipment tends not to work very well, so astronauts "*really* like to use old equipment."

"Do you use this equipment on the ground?" McCandless asked Ferguson, pointing to the warhorse camera.

"We've used it for *years* on the ground," Ferguson replied.

"We'll take *that* into space."

Ferguson was "flabbergasted," but the warhorse (or its later 3D counterpart) went into space on 17 Shuttle missions over the next 26 years. Among the few modifications made for space flight was the addition of plastic bumpers to the sharp corners of the case to prevent injuries or damage. According to cinematographer and astronaut trainer **James Neihouse**, who was also present at the ceremony, two 30-perf, 3D cameras — one for the cabin, one for the cargo bay — were used to shoot the last two films. (They were not donated to the museum.)

NASM associate director **Peter Jakab** said the camera was "a rich object historically, and has created films that have reached literally millions of people around the world."

The cabin camera will be on display in the museum's "Moving Beyond Earth" gallery later this spring. The cargo bay camera, which was not present at the ceremony, will probably be displayed at the museum's annex near Dulles Airport some time next year.

Imax demos laser prototype

According to press reports published as this issue was going to press, **Imax Corporation** has invited a number of studio executives to private demonstrations of a prototype of the laser-powered next-gen digital system it is developing. The demos reportedly featured footage from ***The Dark Knight Rises***.

Web site Deadline.com quoted Imax film president **Greg Foster** as saying the laser system will allow the company to "build screens that are larger than any screens that exist in the world." Deadline claimed that "IMAX is already looking at building screens that are about twice as wide as the 70-foot wide ones it frequently uses for digital projectors." The next-gen digital system will be available in the fourth quarter of 2013.

Christie has lasers and Duo

Christie Digital has announced new digital projection systems for giant screen theaters and has begun demonstrations of laser-powered and high-frame-rate systems.

In mid-February, a week after **Imax Corporation** announced that it was ending its exclusive four-year-old deal with Christie for digital projectors in favor of **Barco** (*see The Biz, February 2012*), Christie announced that it would launch a new dual-projector "integration kit" called Christie Duo. The company says the system lets exhibitors "create and deliver their own branded premium theater experience."

The system, which links two 2K or 4K Christie Solaria Series projectors, is available in an "innovative physical configuration that perfectly aligns every pixel on screen for optimal 2D and 3D presentations," according to a company press release. The system includes "automated features that easily calibrate, align, and optimize the images," capabilities that are also part of the current IMAX digital system.

In an apparent jab at Imax, the release continues, "When combined with world-leading 3D systems, exhibitors can achieve 3D image brightness levels up to twice as high as what can be achieved using the current large-format market leader — at a significant overall cost saving."

A subsequent Christie press release clarified which "world-leading 3D system" it had been referring to. A demonstration of the Christie Duo at the **CinemaCon** conference in Las Vegas in late April featured a new RealD system, the XL-DP, that yielded "luminance measurements in excess of six foot lamberts across the better part of [the] massive 70-foot-wide [silver] screen." Christie's statement continued, "The RealD XL-DP cinema system is a pair of matched left and right eye polarizing filters featuring the patented XL light recovery technology. This cinema system is designed for use on dual DLP projector installations on large screens, usually over 65 feet in width (20 meters)."

Christie also hosted demos of its prototype laser-powered projector and CinemaCon as well as screenings of high-frame-rate clips from **Peter Jackson**'s ***The Hobbit***, shot at 48 fps.

Clips from The Hobbit *were shown at 48 fps at CinemaCon in Las Vegas.*

Warner Bros. Pictures

Imax deals in Pakistan, Canada

Imax Corporation has announced deals for digital IMAX multiplex theaters in Pakistan and Canada. In Pakistan, the company will install system in three new theaters being built by **Cine Star Cinema** in Lahore, Islamabad, and Karachi, beginning in 2013. It is Imax's first deal in the country.

Empire Theatres Ltd., the second-largest exhibitor in Canada, will install up to three more IMAX systems in its theaters, the next to open in Toronto in May. In 1998 Empire became the first multiplex chain in Canada to open an IMAX theater, with the world's first SR installation in Halifax, NS. It was converted to IMAX digital in June 2011, and shortly thereafter Empire added three more digital IMAX screens to theaters in Kitchener, ON; St. John's, NL; and Calgary, AB.

Gelfond predicts $1B in box office

Variety reports that **Imax Corporation** CEO **Richard Gelfond** expects the company will see gross box office receipts of nearly a billion dollars in 2012. This would more than double 2011's total of $417 million. He expects the increase to come from more than 100 new IMAX theaters opening this year in underserved areas like Italy and rapidly growing countries like China and Russia.

Global Immersion's GSX system

UK-based **Global Immersion** has launched a range of giant-screen digital projection systems intended for flat- and dome-screen theaters. The company says that the systems are "fully compliant" with the DCI specs (which provide for a 1.9 aspect ratio), but have also been designed for the Digital Immersive Giant Screen Specification (DIGSS), and are capable of "a digitally projected 4:3 aspect ratio with a 4,000x3,000 pixel resolution."

DEALS

The three systems — GSX (flat screen), GSX Dome, and GSX Fulldome — are 2D and 3D capable, and can project at up to 60 fps. The systems feature "custom lenses, image processing and pixel optimization tools, automated alignment systems, performance monitoring, and remote diagnostics," according to a press release.

For more information, see globalimmersion.com.

JH fest seeks science judges

The **Jackson Hole Wildlife Film Festival** is seeking judges for its recently announced Science Media Competition (*see The Biz, March 2012*). With awards in six categories that encompass most areas of science, the festival is "looking for preliminary judges with diverse specialties." Judges are expected to view and rank a number of films, then participate in conference calls with other committee members to select finalists. The work will take about 20–25 hours over several weeks in June and July. Preliminary judges will receive free passes to Symposium 2012 in Denver or discounted passes to the 2013 Festival in Jackson, WY.

For more information and to nominate a judge, visit jhfestival.org.

DCI to review higher frame rates

Digital Cinema Initiatives, LLC, is reviewing the "development of voluntary guidelines or specifications related to the distribution of motion pictures in stereoscopic 3D at frame rates above the current 24 frames per second." The move comes as industry leaders such as directors **James Cameron**, **Peter Jackson**, and **Douglas Trumbull** have announced projects that will be shot at 48 fps, 60 fps, or higher.

DCI, the joint venture among the major Hollywood studios that established the specs for digital cinema in 2005, has said it seeks to "maximize quality and interoperability of equipment that can process and project higher frame rate content," and that among the factors it will consider are compression bit rates, flash rates, and screen luminance.

MFF to distribute *Hidden Universe*

MacGillivray Freeman Films has acquired the distribution rights to ***Hidden Universe***, a 3D giant-screen film from Australia's **December Media**. According to a press release, the film will "explore the latest advances in astronomy and show how the universe was formed using remastered images from the world's largest telescopes, cutting-edge CGI, and some of the most accurate physics simulations ever created."

The film is directed by **Russell Scott** and produced by **Stephen Amezdroz**, and slated for release in Spring 2013.

Welton is Imax theaters president

Imax Corporation has named **Mark Welton** to the newly formed position of president of IMAX theaters, reporting directly to CEO **Richard Gelfond**. He will "direct IMAX's Theatre Sales and Operations worldwide, developing and executing strategies to further the company's growth," according to a press release. He will also oversee the company's projection technology research and supervise Imax's Canadian headquarters in Mississauga, ON.

Welton joined the company in 1997 as director of business affairs and has since held several other positions, rising to executive vice president of corporate and digital development and theater operations before the latest promotion. Before Imax, he was an associate lawyer at a firm in Canada and a chartered accountant with Ernst & Young.

PERSONNEL

In memoriam: Liz Bleiberg

Liz Bleiberg, formerly executive vice president of **Science Place** (now the **Museum of Nature and Science**) in Dallas, TX, died on March 25 of progressive supranuclear palsy, a degenerative condition of the brain. She was 57.

Born in Birmingham, AL, in 1954, Bleiberg graduated from **Vanderbilt University** in 1975 with a Bachelor of Arts degree in English, media, and theater. From 1991 to 2001 she was executive vice president of Science Place, where she led the development and construction of its IMAX Dome theater in 1996.

From 2001 to 2003 she was director of the **Heard Natural Science Museum** in McKinney, TX, before moving back to Birmingham with her husband, Larry, and son, Harrison, in 2007. There she briefly served as director of the nearby **Alabama Wildlife Center** before stepping down in 2008 for medical reasons. "The disease was taking its toll, although nobody knew it," her husband told the *Dallas News*.

In addition to her husband and son, Bleiberg is survived by her mother, Frances Wideman of Birmingham; three sisters, Anne Barton of Birmingham, Katherine Watters of Atlanta, and Margaret Ames of Silver Spring, MD.; and a brother, John Wideman of Cullman, AL.

Kim Cavendish of the **Museum of Discovery and Science** in Fort Lauderdale, FL, recalls that Bleiberg "was one of the first people at an ASTC conference to befriend me many, many years ago. She was a delight and full of energy. I fondly remember dancing crazily with her and **Mac Sudduth** at the **Rock and Roll Hall of Fame** in Cleveland at some conference. She is missed."

Liz Bleiberg in 2001.

More Than 170 People Attended the GSCA Film Expo

*(from **GSCA** on page 1)*

Films in production

Of the 25 films in production presented, clips from 17 were shown digitally; only eight had footage in 15/70. Eight (but not the same eight) had never been presented to an industry meeting before:

Title	Production Company
The Hobbit	Warner Bros.
Ice 3D	Scandinature Films USA Inc.
Kingdom of Plants	Atlantic Productions
Secret Ocean	Kallisti Media
Space Reporters	La Geode
Tall Ship Battle	Scandinature Films USA Inc.
War of Wars	Kallisti Media
Watermelon Magic	Spring Garden Pictures

The rest had been presented at between one and 13 previous conferences. (The record holder, first presented at the 2002 conference of the Giant Screen Theater Association in Toronto, was **MacGillivray Freeman Films'** ***Humpback Whales***, which made its 14th appearance at the Film Expo and is now set for release in spring 2014.)

Films in production included titles from veterans and newcomers; on traditional subjects and less conventional topics; shot on film and with digital cameras. Chief among the veterans, MacGillivray Freeman presented three projects it is producing — ***Everest: Conquering Thin Air***, *Humpback Whales*, and ***One World One Ocean*** — plus one, ***Hidden Universe***, produced by Australian **Stephen Amezdroz**, that MFF will distribute. This last project is not to be confused with ***Hidden Worlds***, being produced and distributed by Nat Geo. Despite the similar titles, the former looks at astronomical objects, and the latter at microscopic.

Other projects from experienced GS filmmakers include ***Flight of the Butterflies*** from **SK Films**; ***Great White Shark*** from **Yes/No Productions**, makers of ***Pulse: A Stomp Odyssey*** and two other films; and ***Kenya 3D*** from **3D Entertainment**. These films' natural history themes are relatively safe bets with wide appeal.

Futuroscope's IMAX theater is adjacent to an amphitheater used for nightly laser, light, and water shows.

As is often the case, it is the (relative) newcomers who are pushing the envelope with somewhat less conventional subject matter. Most ambitious among these is **Kallisti Media**, whose principals, **Jonathan Kitzen** and **Nick Reed** presented no fewer than four projects, in addition to ***Cosmic Journey***, which opened in Copenhagen last fall and was presented as a new film at the Film Expo. Their other works in progress include ***Aurora***, ***Lightning***, ***Secret Ocean*** (formerly known as *Life in a Drop of Water*), and ***War of Wars***, which overlays historic stereo 3D images from World War I with commentary from modern-day soldiers about the timeless horrors of war. These projects are being captured digitally, and some may only be available to digital theaters.

Only slightly less ambitious is the husband and wife team of **Bo** and **Marianne Landin** of **Scandinature Films**, who announced three films in the works: ***Expedition Volcano***, ***Ice 3D***, and ***Tall Ship Battle***. An experienced TV documentary producer/director/writer, Landin tells *LFX* that they are "determined to get a foothold in the giant-screen market," with these films, the first of which is set to open in 2013.

Two producers whose first GS films were well received are working on their sophomore projects: **Francois Bertrand**, director of 2009's ***Van Gogh: Brush With Genius*** is following up with a film about an even more famous artist: ***Leonardo da Vinci***. And **Pascal Vuong** is building on the success of 2010's ***Sea Rex*** with ***Overlord: Normandy 1944***, about the famous D-Day invasion that was the turning point of World War II.

Films in development

Although eight films were presented as "in development," five of them were Hollywood features that are well into production. One has actually opened (and nearly played out) — ***Titanic 3D*** — and two more will open in May: ***Dark Shadows*** and ***Men in Black III***. The other two are set for release later this year. Because their distributors did not provide 15/70 or digital clips, GSCA conference rules relegated them to the "in development" ses-

sion.

This leaves three actual projects in development: ***Last of the Great Apes*** from Australia's **Visionquest Entertainment**, and two projects from National Geographic: ***Robots 3D*** and ***Deepsea Challenge,*** which chronicle **James Cameron**'s explorations in the Deepsea Challenger, the submersible he used to dive to the Mariana Trench, the deepest part of the world's oceans, in March 2012.

In fact, several of the projects in the "in production" session would probably more realistically be placed in the "in development" category, but the advent of digital projection at the conference has lowered the bar from the days when 15/70 footage was required to be categorized as "in production."

Nevertheless, even though the 25 films "in production" is a relatively healthy number (in fact, a record for a spring meeting), the number of projects in development is unprecedentedly low, even if a few of the "in production" titles are included. Of course, digital production shortens production schedules, and more films can be expected to be repurposed from other media — for instance, **Atlantic Productions**' two projects, ***The Kingdom of Plants*** and ***A Penguin's Tale***, both of which were created for British television. But it remains to be seen how many new projects originated specifically for the giant screen will emerge in the next few years.

Dome survey and panel

Paul Fraser, of Blaze Digital Cinema Works, presented the results of a survey of 34 GSCA members with dome theaters that he had conducted in February. Although on average these theaters devoted 75% of their show schedules to GS films, three-quarters of them are considering switching to digital projection, half of them expecting to do so within the next two years. Nearly half of all respondents said that their attendance is trending down, and 60% said that if film prints were no longer available, they would consider running only library films. Asked their views about the future, 45% said they were optimistic about the prospects for their own theater, but only 35% saw growth ahead for the dome theater sector as a whole.

Fraser then led a panel discussion with representatives from four leading dome theaters: **Jeffrey Kirsch** of the **Reuben H. Fleet Science Center** in San Diego, CA; **Peter Sevel** of the **Tycho Brahe Planetarium** in Copenhagen, Denmark; **Manos Kitsonas**, technical director of the **Eugenides Planetarium** in Athens, Greece; and **Kathryn Chapman** of the **Franklin Institute Science Museum** in Philadelphia, PA.

Kirsch described the recently completed installation of a **Global Immersion** digital fulldome system in his dome, which complements the IMAX 15/70 film projector. They are doing live lectures and recorded fulldome shows like ***Black Holes: The Other Side of Infinity*** from the **Denver Museum of Nature and Science**, which is being screened once or twice a day, and is doing as well as traditional GS films. The dome successfully hosted a meeting of biologists who used the digital system to project computer models of proteins, and he expects to invite artists to use the system as well. Kirsch said the business mod-

*(see **GSCA** on page 8)*

The dome panel discussion. L to r: Manos Kitsonas, Karthyn Chapman, Peter Sevel, Jeffrey Kirsch, Paul Fraser.

*(from **GSCA** on page 7)*

el for the new system "is being developed," adding that "we have found out that there is no business model in the planetarium world."

Sevel said that the Tycho Brahe Planetarium got its first digital system in 2005, upgrading it in 2007 and again in 2009. A 4K system will be added later this year that will be capable of projecting both fulldome programs and insert 3D shows on the front of the dome. He says the audience is not satisfied with just 3D, they want new programs and experiences.

The Eugenides Planetarium in Athens features a **Cinema Development Company** 15/70 projector and a digital fulldome system in an 80-foot (24-meter) dome. With a 50-year history as a planetarium, the programming is 70% fulldome shows and 30% GS films. In response to a question from Fraser, Kitsonas said his audience doesn't get the difference between the film and digital systems, but only cares about the subject matter. He plays the GS films on evenings and weekends, and fulldome shows the rest of the time, keeping the schedule consistent through the year, so that "the audience knows what to expect when they come."

Chapman's museum has three separate venues: a 22-year-old IMAX Dome theater, a digital fulldome planetarium, and a flat-screen 3D digital theater. As in Athens, the planetarium was the museum's original attraction, and although it has been upgraded to digital from electromechanical, visitors know it and understand what to expect from it. The challenge was how to "brand" the digital 3D theater which opened only a few years ago, and sometimes shows the same titles as the IMAX. The solution was to program the digital theater with shorter, kid-oriented programs and animated Hollywood features, show traditional 40-minute documentaries in the IMAX Dome during the day, and action and fanboy DMR films in the evenings. "The IMAX is not for three-year-olds," she said

Sevel echoed Kitsonas' view, saying that "people are asking for content; people are not asking for technology." Kirsch also agreed, saying that for the first 15 years after his theater opened in 1973 — the first IMAX Dome theater in the world — the novelty of the experience was enough to draw people in. But now the content drives attendance, not the format.

Kirsch complained that there has been a dearth of films made specifically for domes, citing *Rocky Mountain Express* as one of the first titles in a long time that looks good on the dome. He expects to split the schedule between film and digital shows, with two or three shows of each type per day, and add alternate digital content on some evenings.

Fraser wrapped up the session by asking the panel what changes they expected in five years. Kirsch said, "I'm retiring in a year, so it's a piece of cake for me." On a more serious note, he said that **Imax Corporation**'s renewed focus on institutional theaters, particularly dome theaters, "will have a big impact if they're successful. There's a big 'if' there. If they're not successful, it may actually hold back some developments until we can get to an agreed-upon standard" for the industry. But, he said, "the giant screen is here to stay."

La Géode in Paris hosted Dome Day.

Sevel pointed out that domes are special, and offer experiences that aren't available at home. Used properly, that advantage could lead to a revival of domes. Chapman said, with a twinkle in her eye, "The one exciting thing about five years from now, when things are going to be very magical and unicorns are running the place and a robot is doing my job, is that we can have flexibility because we won't be bogged down by the technology."

(*See Fraser's article about the convergence of film and digital domes on page 1.*)

Dome Day

After two days in Futuroscope, many of the conferees boarded the TGV (the French high-speed train) and made the 200-mph (320-kph) trip to Paris for Dome Day at La Géode, an 85-foot (26-meter) IMAX Dome theater. Six of the new films were screened, along with clips from the films in production.

The Film Expo and Dome Day were made possible by the efforts of the GSCA board and conference committee, and the following individuals: **Christian Scheidegger**, **Simone Appleby**, **Jessica Christensen**, and **Anine Van Den Hurk** at Euromax; **Jean Hervé Madec**, **Dominique Prisset**, **JC Joly**, and the staff at Parc du Futuroscope; **Laurent Dondey**, **Nelly Duval**, and the staff at La Géode; Paul Fraser, Blaze Digital Cinema Works; **John Lewis**, **Bob Bullock Texas State History Museum**; **Alvis Wales**; **Terry Lee**, **Jean Luc Charles**, **Peter Kehm** with Imax Corporation; and the staff of the GSCA: **Tammy Thurmon**, **Kelly Germain**, **Eileen Pheiffer**.

Next meeting

The next meeting of the GSCA will be its annual conference and trade show, to be held at the **Esquire IMAX Theatre**, an Imax Corporation owned-and-operated theater in Sacramento, CA, Sept. 18–20, with Dome Day on Sept. 21 at the **Tech Museum of Innovation** in San Jose, CA. giantscreencinema.com.

New Films

Air Racers 3D: Forces of Flight

3D Entertainment Films Ltd.
Release Date: 4/5/2012
Format: 3D
Length: 40 min.

Fly into Nevada's "Valley of Speed" for a breathtaking exploration of the fastest race in the world combined with spectacular air show entertainment: the legendary Reno National Championship Air Races. Join today's piloting elite as they fight for position, wingtip-to-wingtip, and skim 50 feet (15 m) above the ground around an oval course at twice the speed of a NASCAR race. Discover this ultra-competitive world through the eyes of rookie pilot Steve Hinton Jr. as he attempts to fly his P-51 Mustang fighter plane to victory in the most highly anticipated and unpredictable race class. Learn about the history and science behind the sport, whose concept dates back to the dawn of aviation, and see top-notch aerobatic performers, including the Canadian Forces Snowbirds. With spectacular aerial photography filmed entirely in 3D and unprecedented access granted to the course, Air Racers puts you in the cockpit to experience the intensity and high-speed thrills of a sports event like no other.

Chasing Cotards

Button Up Productions
Release Date: 5/31/2010
Format: 2D
Length: 13 min.

Once a successful artist, Hart is now a shadow of his former self, his world torn apart by loss. He is consumed by a haunting portrait of his deceased wife and spends every moment studying her face, unable to forget. Knowing that she was taken away from him too soon, all he wishes is that she would return to breathe life into his world once more. Shot with a Vista Vision camera for a May 2010 even at the BFI IMAX Cinema in London.

Cosmic Journey: Through Hubble and Cassini

Kallisti Media
Release Date: 1/1/2012
Format: 3D
Length: 20 min.

A stunningly beautiful, totally immersive journey from Shuttle launch to the far edge of the known universe and back. Embrace one of the finest 3D experiences using images from Hubble and Cassini and using our very own custom technology to see the clouds of Jupiter, the rings of Saturn, gaseous nebulae and far away galaxies brought to life like you have never seen before. With full educational graphics, educational support, engaging sound mix and some of the best 3D you have ever seen. Space is truly gargantuan and has never looked so good. This is space travel at its best, you will love your Cosmic Journey.

Flying Monsters 3D

Atlantic Productions
Release Date: 10/7/2011
Format: 3D
Length: 40 min.

Flying Monsters 3D is a pioneering documentary about the prehistoric world of pterosaurs—flying vertebrates with a wingspan of up to 45 feet who lived 160 million years ago. With the help of cutting edge 3D technology, audiences will be immersed in the lush and alien environment in which these creatures—the size of small jet airplanes—lived. The film will be produced by Anthony Geffen and narrated by veteran filmmaker David Attenborough.

Last Reef, The

Yes/No Productions
Release Date: 1/26/2012
Format: 3D
Length: 40 min.

Exotic coral reefs, vibrant sea walls in the sub-Arctic pulsating with anemones and crustaceans: these biodiversity hot spots are as vital to our lives as the rainforests. All are under threat as global CO^2 emissions continue to acidify the ocean. Groundbreaking macro 3D cinematography explores these cities beneath the sea.

Meerkats

National Geographic Cinema Ventures
Release Date: 9/30/2012
Format: 3D
Length: 40 min.

Filmed over the course of a year, Meerkats 3D follows an extraordinary -- not to mention adorable -- family that stands just 12 inches tall. Discover how these tiny but strong creatures survive in the harsh desert, led by the family's tenacious matriarch, Klinky. Her daunting task is to both protect the offspring she has, as well as produce more pups, to ensure the family's survival for generations to come. Together, this family of 20 will battle a rival gang to protect their territory, their pups, and their lives as they also contend with the desolate environment which is their home.

Rescue 3D

Stephen Low Company
Release Date: 6/17/2011
Format: 3D
Length: 45 min.

Audience members will experience first hand the long-standing tradition of military and civilian response to a humanitarian crisis that may occur anywhere in the world. Through the eyes and reflections of the film's featured characters, we will get an insider's view of the training, the hardware used, and the passionate commitment to saving lives, as captured in the real-time filming of the response to the disaster in Haiti.

Rocky Mountain Express

Stephen Low Company
Release Date: 9/30/2011
Format: 2D
Length: 40 min.

Through the Nineteenth Century and into the Twentieth, the pioneering effort of joining communities using steel rails and the power of steam was repeated everywhere — a universal epic re-enacted on every continent and reaching virtually every corner of the globe. The great era of steam lives on in stories and in the heart. But for some, stories are not enough. A determined few work instead to re-ignite the fires of the Age of Steam and re-animate the great steel wheels and proud machines of their dreams…

To the Arctic

MacGillivray Freeman Films, Inc.
Release Date: 4/30/2012
Format: 3D
Length: 45 min.

To The Arctic 3D will transport audiences to the ocean and tundra of the far north to witness the amazing richness and complexity of this environment. Venture across floating ice with a mother polar bear and her two cubs as they struggle to survive. Discover the extraordinary underwater world of the Arctic sea with beluga whales, Greenland sharks and walruses. Fly above a thundering herd of caribou making their way to their calving ground. A visually breathtaking story of life in the Arctic and the rapid changes occurring there because of climate change.

Tornado Alley

Graphic Films Corporation
Release Date: 3/18/2011
Format: 3D
Length: 42 min.

Join Storm Chasers star Sean Casey and the researchers of VORTEX 2, the most ambitious effort ever made to understand the origins and evolution of tornadoes, on this heart-pounding science adventure. Armed with a 70mm camera, a fleet of customized vehicles designed to withstand gale force winds, torrential rains and unrelenting hail, and an arsenal of the most advanced weather measurement instruments ever created, the stars of Tornado Alley take audiences on a thrilling quest to experience a tornado's destructive power at point blank range. Experience the adrenaline and the science of nature's most dramatic phenomena!

Films in Production (presented on 15/70 film)

Dark Knight Rises, The

Warner Bros.
Release Date: 7/20/2012
Format: 2D
Length: 120 min.

The Dark Knight Rises is the epic conclusion to filmmaker Christopher Nolan's Batman trilogy. Oscar-winner Christian Bale again plays the dual role of Bruce Wayne/Batman. The film also stars Anne Hathaway as Selina Kyle, Tom Hardy as Bane, and Joseph Gordon-Levitt as John Blake. Returning to the main cast, Oscar-winner Michael Caine plays Alfred; Gary Oldman is Commissioner Gordon; and Oscar-winner Morgan Freeman reprises the role of Lucius Fox. The film includes about an hour of footage shot with IMAX cameras.

Everest: Conquering Thin Air 3D

MacGillivray Freeman Films, Inc.
Release Date: 3/31/2013
Format: 3D
Length: 40 min.

One critically ill hospital patient lives. Another dies. Why? On Everest, courageous doctors undertake the largest high-altitude medical study ever conducted to understand how we adapt to oxygen deprivation. They're joined by Araceli and Jamling, the heart and soul of Everest, at the scene of their successful 1996 climb.

Great White Shark

Yes/No Productions
Release Date: 2013
Format: 3D
Length: 40 min.

Misrepresented, maligned, and on the verge of extinction, the great white shark is an iconic predator: the creature we love to fear. Great White Shark 3D will explore the great white's place in our imaginations, in our fears, and in the reality of its role at the top of the oceanic food chain. The film will concentrate on three key aggregation points around the world: Mexico, South Africa, and New Zealand. Key figures in the history of shark research, people whose lives have been changed by contact with the great white, will tell us of their experiences, culminating in a direct encounter between man and shark.

Hobbit: An Unexpected Journey, The

Warner Bros.
Release Date: dsf
Format: 3D
Length: 120 min.

The Hobbit: An Unexpected Journey follows title character Bilbo Baggins, who is swept into an epic quest to reclaim the lost Dwarf Kingdom of Erebor, which was long ago conquered by the dragon Smaug. Approached out of the blue by the wizard Gandalf the Grey, Bilbo finds himself joining a company of thirteen dwarves led by the legendary warrior Thorin Oakenshield. Their journey will take them into the Wild; through treacherous lands swarming with Goblins and Orcs, deadly Wargs and Giant Spiders, Shapeshifters and Sorcerers. A simple gold ring that is tied to the fate of all Middle-earth in ways Bilbo cannot begin to know.

Jerusalem

Cosmic Picture
Release Date: 9/30/2013
Format: 3D
Length: 40 min.

Journey into the heart of history. For the first time on the giant screen, experience the Holy Land in 3D. Explore secret underground passages and ancient tombs, visit the places of the Bible, and find out why Jerusalem remains sacred to billions of people.

Outside In

SV2 Studios
Release Date: 7/1/2013
Format: 2D
Length: 42 min.

Outside In is a non-profit giant screen film that takes audiences on a journey of the mind, heart, and spirit from the big bang through the history of the universe and humanity via the Cassini-Huygens Mission at Saturn. Currently in production after years of development, Outside In aims for global distribution late next year. The release of the first footage from the film went viral this spring, resulting over 3.2 million hits and global media coverage in over 200 countries. Composed entirely of actual photographs from space missions, astronomers, telescope, and vast historical sources animated using innovative visual techniques developed by the filmmaker, Outside In stretches the boundaries of the motion picture form. The film will be a groundbreaking visual experience for audiences with moving music and powerful sound design. The release will include an extensive outreach and educational plan in concert with science advocacy groups around the world.

Overlord: Normandy 1944

N3D Land Production
Release Date: 6/6/2014
Format: 3D
Length: 40 min.

When visiting Normandy nowadays, it's hard to imagine how these wonderful beaches running along the quiet countryside became, 67 years ago, hell on Earth. D-Day itself is a well-known event, yet only a few people know exactly why and how this region in Western Europe became, from the end of 1943 until August 1944, the most important place in the world. Overlord takes advantage of the giant screen in order to explain and show, in the most creative and impressive way, how the fate of the present-day world has been played, not only on D-Day but months, even years before; not only on the beaches in Normandy but everywhere in the world, especially in England and North America; not only by hundreds of thousands of soldiers but by civilians too. From November 1943 to the end of August 1944, audiences will know how these "Days Changed the World."

Films in Production (presented digitally)

Aurora

Kallisti Media
Release Date: 2012
Format: 2D
Length: 40 min.

The stunning Northern Lights have been beloved and well documented for a hundred years, but beneath their beauty is the science and danger behind the lights. If Earth is struck full force with a solar flare, there will be a widespread telecommunication meltdown. This film shows the beauty, the science, and an educational message so that we can better understand and protect ourselves. If forewarned is forearmed, this is a must film not only for families, but an informational tool to spread the word and understand this beautiful and underappreciated phenomena.

Penguin's Tale, A

Atlantic Productions
Release Date: Fall 2012
Format: 3D
Length: 40 min.

A very human story of a lone penguin's often comic, sometimes tragic, struggle to survive, find love, and raise a family in the wildest city on earth. Returning from a year-long fishing trip, he arrives back hoping to find a mate. But he can't believe his luck—there are 50% fewer females this year. The stress is enough to make his feathers fall out. When he finally starts a family the hooligans in the neighborhood reveal themselves in a different light. Orcas lurk below the ocean waves, massive elephant seals control the beaches, while murderous giant petrels and thieving skuas dominate the skies above. Can he survive and raise a chick to become The Bachelor King?

Expedition Volcano

Scandinature Films USA Inc.
Release Date: 3/31/2013
Format: 3D
Length: 43 min.

Volcano is the first 3D giant screen-story of volcanoes and specifically about Iceland: its powerful history, geological legacy, and wild beauty. Iceland is the world's volcanic laboratory, with more volcanic features than anywhere else on Earth. In Jules Verne's science fiction novel, Journey to the Center of the Earth, scientists entered the underground through a volcano crater in Iceland. Like their fictional ancestors, this film follows scientists entering the deep earth through a crater in search of evidence as to why eruptions in Iceland become so violent. This is the story of the land of fire and ice, a saga of human settlement and wildlife on a landmass which is slowly being torn apart by unrelenting forces of nature.

Flight of the Butterflies

SK Films, Inc.
Release Date: 9/30/2012
Format: 3D
Length: 40 min.

What weighs half a gram and travels thousands of kilometers every year? Every winter, the remote and mountainous volcanic forests of Mexico are home to one of nature's greatest gatherings—hundreds of millions of migrating monarch butterflies weathering the winter. We follow the captivating story of Dana (Danaus Plexippus) and her descendants as they make the perilous return journey from Mexico to Canada. How do these tiny and iconic creatures travel so far and know where to go each year to a place they have never been? This epic natural history saga is interwoven with the fascinating detective story and a determined scientist's almost 40-year search to find their amazing overwintering sites.

Hidden Universe

December Films
Release Date: 3/31/2013
Format: 3D
Length: 45 min.

A remarkable voyage into a universe that until now we have been unable to see. Combining ground-breaking CGI, re-mastered telescope images, and some of the most accurate physics simulations ever done, it will show us a compelling picture of how scientists believe the universe began. It's a story of human endeavor and ingenuity, frontier science, and incredible discovery, as we look back to the dawn of time on a quest to discover the unknown universe.

Hidden Worlds

National Geographic Cinema Ventures
Release Date: 2013
Format: 3D
Length: 40 min.

Through the grandeur and immense scale of the giant screen, Hidden Worlds 3D reveals a universe unseen by the naked eye. From phenomena deeply veiled to those too fast, too slow, or too small for our eyes to see. Hidden Worlds 3D will break barriers of time and scale, making the invisible visible.

Humpback Whales 3D

MacGillivray Freeman Films, Inc.
Release Date: 3/31/2014
Format: 3D
Length: 40 min.

From the clear turquoise waters of the South Pacific to Africa, Hawaii and Alaska, this ocean adventure will reveal what we know about this giant mammal and what mysteries scientists are determined to solve. More than 100,000 humpbacks live and travel off our shores. Incredibly curious, they have established a bond with man -- their remarkable stewards and greatest threat.

Ice 3D

Scandinature Films USA Inc.
Release Date: 7/1/2013
Format: 3D
Length: 40 min.

The Earth is called the blue planet. But much of its water only exists in frozen form; as snowflakes, ice, hail, icicles, glaciers, pack ice and entire polar ice caps. Some ice is frozen solid in permafrost soils. Ice can kill and give life and it has always been an important part of the human saga. In a warmer world the ice is slowly disappearing. Ice 3D is a science story built from a single snowflake to an entire polar ice cap. It's a film that follows scientists working with ice, and even inside huge glaciers.

Kenya 3D: Animal Kingdom

3D Entertainment Films Ltd.
Release Date: 2/8/2013
Format: 3D
Length: 40 min.

Kenya 3D: Animal Kingdom takes audiences on an epic journey into some of the most important animal sanctuaries on Earth, where life and death dramas play out daily. Encounter the country's famous fauna in their natural habitat, including lions, leopards, African elephants, and black rhinos. Explore the remotest areas of Kenya, from the Rift Valley's stunning giant lakes, which are home to millions of flamingos, to the Loita Hills where the annual Great Migration of wildebeest, zebras, and gazelles takes place. Join an expert team of filmmakers in the very heart of Kenya on this truly unique adventure captured for the very first time in 3D and shown on the world's largest screens at IMAX theaters.

The Kingdom of Plants

Atlantic Productions
Release Date: Fall 2012
Format: 3D
Length: 40 min.

In this sensational giant screen film, David Attenborough reveals a whole new dimension to the lives of plants. Using pioneering 3D time-lapse and specialist close up photography, he traces them from their beginnings on land to their vital place in nature today. From our time scale to theirs, plants are exposed as dynamic creatures every bit as aggressive as animals. All this takes place in a unique place; a microcosm of the plant world where some 90% of all known plant species are represented: The Royal Botanic Gardens at Kew. This spectacular adventure through the Kingdom of Plants is so immersive and compelling it has the capacity to amaze even the least green-fingered.

Leonardo da Vinci

Camera Lucida Productions
Release Date: 1/31/2013
Format: 3D
Length: 40 min.

An extraordinary immersion in the incredible world of the most creative spirit in the human history: engineer, scientist, and artist. A discovery on the giant screen, in 3D, of the sketches of his inventions up to his paintings, considered for five centuries as the masterpieces of art history.

Lightning 3D

Kallisti Media
Release Date: 2012
Format: 3D
Length: 40 min.

There are few things in life that can capture such a range of emotional response as lightning. It is simultaneously beautiful, powerful, awe inspiring, subject of fascination for millennium, and even a vision of God and worshipped by some. It is perhaps the most widely known natural phenomenon on the planet, viewable and known by every person on Earth, yet we are completely ignorant to its origin, cause, forms, and initiation. We are all witness to one of the greatest single unsolved mysteries of all time.

One World One Ocean 3D

MacGillivray Freeman Films, Inc.
Release Date: 3/31/2015
Format: 3D
Length: 40 min.

One World Ocean 3D connects us and our planet from pole to pole, from Africa to Asia to the tiny islands of the South Pacific. Traveling to every ocean, audiences will dive into each unique ecosystem. The more we discover about the ocean, the better we realize its powerful impact on and importance to all our lives. With a multi-platform release and social media programs, One World Ocean 3D will be the largest ocean media event ever -- connecting and inspiring millions, perhaps billions, in an unprecedented media campaign to save our ocean.

Secret Ocean

Kallisti Media
Release Date: 11/30/2012
Format: 3D
Length: 22 min.

Beneath the seabed and beyond nearly a kilometer of rock is a recently discovered secret ocean that covers 2/3rds of the world's surface. This ocean exists within the earth's crust itself and contains more water than all the ice and glaciers on the planet, and has more water flow than all the rivers in the world combined. Within this crust live some of the simplest forms of life, which scientists suspect may contain the clues to the origin of life on earth and the secret to life elsewhere in the universe. Take a trip to the ocean floor and go far far beyond in this gigantic quest to find the smallest, most simple forms of life which may hold the secrets to the origin of life.

Space Reporters

La Geode
Release Date: 2014
Format: 3D
Length: 40 min.

Space Reporters—The First Giant Screen 3D-CGI Transmedia Adventure for Our Planet. The year is 2012. The place, the bicentennial Galaxies-United conference. The heroes, Stella & Sol, the Space Reporters. They've returned from investigating the Blue Planet, taking on human form to better complete their mission. Their last visit to Earth was during the industrial revolution. The change is startling. Man's inventions and discoveries of the past hundred years have completely changed humanity. The first family-oriented animated film to spur clear questions in a complex world and open eyes to sustainability. A Transmedia international edutainment project of the third kind.

Tall Ship Battle

Scandinature Films USA Inc.
Release Date: 2014
Format: 3D
Length: 40 min.

In 2011 new marine archeological discoveries in the Baltic Sea opened the door to knowledge about one of the biggest naval battles in human history. It pits Northern Europe's military "super power" Sweden against an allied fleet of Danish and Dutch ships. Hundreds of ships clash in the ensuing battle. It's a true David and Goliath story. During an adventurous expedition divers and deep sea explorers using high-tech survey equipment will search for clues and evidence about the ships and what really happened during the battle. Through advanced CGI and historical re-enactments the viewer will understand the magnificence, prowess and shortcomings in tall ship warfare.

War of Wars

Kallisti Media
Release Date: 2012
Format: 3D
Length: 20 and 40 min.

Using a collection of over 10,000 never-before-seen stereo photos from the battlefield, and the first combat film ever taken, War of Wars gives life to the past by using the voices of contemporary combat veterans to share their own stories of battle. The film centers on the Battle of the Somme, which was the largest battle in human history, claiming six times the casualties of D-Day just in the first opening hours, and where the British lost more men than they did in all of WW2. War of Wars is a somber reminder of the realities of war not just on the battlefield but within the minds of those who have to experience it firsthand.

Watermelon Magic

Spring Garden Pictures
Release Date: 4/30/2013
Format: 3D
Length: 40 min.

Weaving together documentary and narrative elements, Watermelon Magic chronicles a season on the family farm, as young Sylvie grows a patch of watermelons to sell at market. Constructed entirely from high-resolution still photos, this film employs a dynamic style of varying shutter-burst frame rates with stunning time-lapse sequences, to captivate young and old audiences alike. We witness the elementary scientific concepts of the life cycle of plants, observing their journey from seed to flower to fruit. When harvest time arrives, Sylvie must decide if she will share her precious watermelon babies with the world.

When and How Will Film and Digital Domes Converge?

*(from **DOMES** on page 1)*

Fulldome system from **Global Immersion**, supplementing the 15/70 IMAX projector, which will continue to be used.

Of course, live-action documentary films are the staple for film domes, with running times averaging in the 40-minute range. Their dome screens are tilted, usually at a 30-degree angle, and seating is unidirectional, i.e., the audience, on the steeply raked seating deck, faces in the same direction. Seat counts are typically in the 250–400 range. Films are licensed on a variable-fee, gate-share basis, either per head or a percentage of box office. A single, large-format mechanical film projector with a fisheye lens illuminates a screen that is about two-thirds of a hemisphere.

Digital fulldome

This is obviously a newer sector. The first two permanent fulldome theaters were installed nearly simultaneously in late 1998 by **Evans & Sutherland** at the **Adler Planetarium** in Chicago, and by **Sky-Skan** at the **Houston Museum of Natural Science**. The installed base of fulldome theaters has been growing steadily throughout the last decade, and the worldwide total (as of April 2012) stands at 1,063, according to **Loch Ness Productions**' online database of fulldome theaters. (*See www.lochnessproductions.com/lfco/lfco.html.*) Of these, 112 meet or exceed the GSCA's 60-foot (18-meter) standard, just outnumbering the 99 film domes mentioned above, not all of which qualify as giant screens. (About 15 dome theaters have both film and fulldome projection systems and thus appear in both of these lists.)

Another 179 fulldomes are medium size (40–59 feet/12–18 meters). More than 770 are small (less than 40 feet/12 meters in diameter), including almost 300 portable and/or inflatable domes.

Pre-rendered fulldome content (as distinct from lectures by a live presenter) has been dominated by CGI productions, and the majority of topics are related to astronomy. The only live-action shows in active distribution are reformatted giant-screen films, though live-action capture has been composited into some CGI productions. Evans & Sutherland was the first fulldome distributor to offer reformatted GS films, beginning in 2007. Sky-Skan followed not long afterward, though E&S now offers more GS titles (about a dozen) for fulldome distribution.

In fulldome theaters, content is typically licensed on a fixed-fee basis, paid in advance, for terms of one, three, or five years, though 25- and even 50-year terms

Paul Fraser

are offered at times, for not much more than the cost of a three-year license.

Fulldomes use multiple projectors (two to eight) to illuminate screens that are comparable in size to GS film domes. The projected image fills the full 180-degree area of a hemispherical screen, and the tilt of the dome ranges from level to 15 degrees. However, most of those that share the dome screen with a film projector have tilts of 25 to 30 degrees. Seating capacity tends to be less than their comparably-sized film counterparts. Unidirectional seating configurations, while more prevalent in the larger domes, are used in less than a quarter of all digital domes; the majority — especially those with level or low-angle domes — have concentric or other seating patterns.

The majority of pre-rendered shows have running times in the 20–25 minute range; a minority have running times greater than 30 minutes. Only a few shows made for fulldome are more than 40 minutes. When they install a fulldome system, theater operators usually also get production tools from their system integrators that let them create their own CGI shows. They also use software-controlled digital models of the universe for live, real-time presentations of planetarium content.

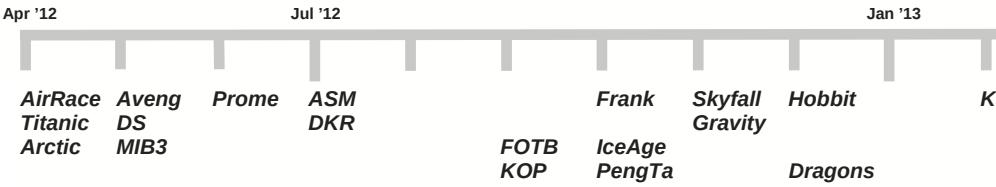
Clearly, there are many differences between these two sectors, but what do they have in common? Both types of dome theater are mainly in institutional settings and have strong educational mandates. Although topics and production budgets differ, both favor documentaries. And of course both offer a genuinely immersive environment. Theater operators in both groups demand content that is produced for the dome, or at least reformatted properly with dome geometry in mind.

So, thinking about all the differences and similarities, what are the obstacles to convergence, and what can be done to overcome them and accelerate the march to convergence? To answer this, I believe it's probably most practical to focus on the convergence between the GS film domes and their comparably sized digital fulldome counterparts. This suggests an installed base of roughly 200 domes (the large-format film domes, plus the giant-screen digital domes). If the medium-size digital domes are included, the potential converged dome market becomes almost 400 domes, or about four times the current film dome count. And that's just as of today — not factoring in the continuing growth of digital fulldome theaters.

The business model

Perhaps the most important obstacle to overcome is the difference in business models. Fulldome content license fees are

*(see **DOMES** on page 14)*



All films are 3D unless noted, and underlined titles are 2D
* New listing.
Updated information is printed in **bold**.
Unless noted, all films will run about 40 minutes.

Marvel's The Avengers
Walt Disney Pictures; distributor: Walt Disney Pictures; director, writer: Joss Whedon; producer: Kevin Feige; DP: Seamus McGarvey; score: Alan Silvestri. Cast: Jeremy Renner, Robert Downey Jr., Scarlett Johansson, Chris Hemsworth, Chris Evans, Cobie Smulders, Samuel L. Jackson, Mark Ruffalo, Tom Hiddleston, Gwyneth Paltrow, Paul Bettany, Stellan Skarsgård, Lou Ferrigno, Jenny Agutter. 120 minutes. Release: May 4.
– Film will be converted to IMAX digital format with IMAX DMR.

Dark Shadows
Warner Bros. Pictures, Village Roadshow Pictures; distributor: Warner Bros. Pictures; director: Tim Burton; producers: Tim Burton, Richard D. Zanuck, Graham King, Johnny Depp, Christi Dembrowski, David Kennedy; script: Seth Grahame-Smith; executive producers: Chris Lebenzon, Nigel Gostelow, Tim Headington, Bruce Berman. Cast: Johnny Depp, Michelle Pfeiffer, Helena Bonham Carter, Eva Green, Jackie Earle Haley, Bella Heathcote. 2D. 120 minutes. Release: May 11.
– Film will be converted to IMAX film and/or digital formats with IMAX DMR.

Men in Black III
Amblin Entertainment; distributor: Columbia Pictures; director: Barry Sonnenfeld; producers: Laurie MacDonald, Walter F. Parkes; script: Etan Cohen, David Koepp, Jeff Nathanson, Michael Soccio; DP: Bill Pope; score: Danny Elfman; executive producers: G. Mac Brown, Steven Spielberg. Cast: Will Smith, Josh Brolin, Emma Thompson, Tommy Lee Jones, Bill Hader, Nicole Scherzinger, Rip Torn. 120 minutes. Release: May 25.
– Film will be converted to IMAX film and/or digital formats with IMAX DMR.

Prometheus
Scott Free Productions; distributor: Twentieth Century Fox; director: Ridley Scott; producers: David Giler, Walter Hill, Ridley Scott, Tony Scott; DP: Dariusz Wolski; script: Jon Spaihts, Damon Lindelof; score: Marc Streitenfeld; executive producers: Michael Costigan, Michael Ellenberg, Mark Huffam, Damon Lindelof. Cast: Noomi Rapace, Michael Fassbender, Charlize Theron, Idris Elba, Guy Pearce. 120 minutes. Release: June 8.
– Film will be converted to IMAX film and/or digital formats with IMAX DMR.

The Amazing Spider-Man
Columbia Pictures; distributor: Columbia Pictures; director: Marc Webb; producers: Avi Arad, Matthew Tolmach, Laura Ziskin; DP: John Schwartzman; script: James Vanderbilt; score: Hans Zimmer; executive producers: Michael Grillo, Stan Lee. Cast: Emma Stone, Andrew Garfield, Martin Sheen, Rhys Ifans, C. Thomas Howell, Sally Field, Embeth Davidtz, Denis Leary. 120 minutes. Release: July 3.
– Film will be converted to IMAX film and/or digital formats with IMAX DMR.

The Dark Knight Rises
Legendary Pictures, Warner Bros. Pictures; distributor: Warner Bros. Pictures; director: Chris Nolan; producers: Christopher Nolan, Charles Roven, Emma Thomas; DP: Wally Pfister; script: Jonathan Nolan, Christopher Nolan; executive producers: Kevin De La Noy, Benjamin Melniker, Thomas Tull, Michael E. Uslan. Cast: Anne Hathaway, Joseph Gordon-Levitt, Christian Bale, Gary Oldman, Marion Cotillard, Morgan Freeman, Juno Temple, Michael Caine. 2D. 120 minutes. Release: July 20.
– Film was partially shot in 15/70. Remainder will be converted to 15/70 and IMAX digital with the IMAX DMR process.

Flight of the Butterflies
FOBC Productions Inc., Flight of the Butterflies UK Ltd., Sin Sentido Films; distributor: SK Films; director: Mike Slee; producers: Jonathan Barker, Mike Slee, Rafael Cuervo; DP: Simon de Glanville; script: Mike Slee, Wendy MacKeigan; executive producer: Jonathan Barker. Narrator: Gordon Pinsent. Release: Fall.
– February-March: Final shoot in Mexico.
– Principal photography is complete.

The Ice Age (wt)
Giant Screen Films/D3D Cinema; distributor: Giant Screen Films; director: David Clark; producers: Don Kempf, Andy Wood; script: Andy Wood; DP: Reed Smoot. Shot in 5K digital. Release: Fall.
– January: Filmed in Utah and Los Angeles.
– March: Filming scientist Dan Fisher in St. Louis.

The Kingdom of Plants *
David Attenborough reveals a whole new dimension to the lives of plants, using pioneering 3D time-lapse and specialist close-up photography.
Atlantic Productions; distributor: tba; director: Martin Williams; producers: Oliver Page, Jacquie Pepall; script: David Attenborough; DP: Tim Cragg; score: Elik Alvarez, Joel Douek, Freddy Sheinfeld; executive producer: Anthony Geffen. Cast: David Attenborough. Release: fall.
– Film was shot in 4K digital for British television. A 40-minute version for 15/70 and digital GS theaters is being prepared.
– Film will be screened in 15/70 at fall GSCA conference.

A Penguin's Tale *
A very human story of a lone penguin's often comic, sometimes tragic, struggle to survive.
Atlantic Productions; distributor: tba; producer: Anthony Geffen; script: David Attenborough; DPs: Paul Williams, Simon Niblett; score: James Edward Barker; executive producer: Anthony Geffen. Cast: David Attenborough. Release: fall.
– Film was shot in 4K digital for British television. A 40-minute version for 15/70 and digital GS theaters is being prepared.
– Film will be screened in 15/70 at fall GSCA conference.

Frankenweenie
Walt Disney Company; distributor: Walt Disney Company; director: Tim Burton; producers: Allison Abbate, Tim Burton; script: John August; DP: Peter Sorg; score: Danny Elfman; executive producer: Don Hahn. Cast: voices of Winona Ryder, Catherine O'Hara, Martin Short, Martin Landau. 90 minutes. Release: Oct. 5.
– Film will be converted to IMAX digital format with IMAX DMR.

Skyfall
Columbia Pictures; distributor: Columbia Pictures; director: Sam Mendes; producers: Barbara Broccoli, Michael G. Wilson; script: John Logan, Neal Purvis, Robert Wade; executive producers: Callum McDougall, Anthony Waye. Cast: Daniel Craig, Ralph Fiennes, Javier Bardem, Helen McCrory, Judi Dench, Naomie Harris, Albert Finney. 120 minutes. Release: Nov. 9.
– Film will be converted to IMAX film and/or digital formats with IMAX DMR.

Gravity
Warner Bros. Pictures; distributor: Warner Bros. Pictures; director: Alfonso Cuarón; producers: Alfonso Cuarón, David Heyman; script: Alfonso Cuarón, Jonás Cuarón; executive producer: Stephen Jones. Cast: Sandra Bullock, George Clooney. 120 minutes. Release: Nov. 21.
– Film will be converted to IMAX film and/or digital formats with IMAX DMR.

The Hobbit: An Unexpected Journey
WingNut Films; distributor: Warner Bros.; director: Peter Jackson; producers: Carolynne Cunningham, Peter Jackson, Fran Walsh; DP: Andrew Lesnie; script: Philippa Boyens, Peter Jackson, Guillermo del Toro, Fran Walsh; executive producers: Callum Greene, Ken Kamins, Zane Weiner. Cast: Elijah Wood, Cate Blanchett, Hugo Weaving, Orlando Bloom, Benedict Cumberbatch, Martin Freeman, Ian McKellen, Andy Serkis. 120 minutes. Release: Dec. 14.
– Film will be converted to IMAX film and/or digital formats with IMAX DMR.

Dragons: Real Myths and Unreal Creatures (wt)
Productions Thalie; distributor: BIG & Digital; director: Marc Fafard; producer: Yves Fortin; DPs: Francis Henneman, Sean MacLeod Phillips; script: Marc Fafard. Release: December.

Kenya: An Animal Kingdom (wt)
3D Entertainment Films.; distributor: 3D Entertainment Distribution; director: Jean-Jacques Mantello; producer: François Mantello; score : Christophe Jacquelin. Release: Feb. 8, 2013.
– **Principal photography will resume in June.**

Everest: Conquering Thin Air (wt)
MacGillivray Freeman Films; distributor: MacGillivray Freeman Films; director: Greg MacGillivray;

producer: Shaun MacGillivray; script: Stephen Judson; DP: Brad Ohlund; score: Steve Wood. Release: Spring 2013.
- Two-thirds of photography is complete.
- Filming will resume this year.

Watermelon Magic *
Watermelon Magic is the story of a farmer's daughter, gifted with magic, who raises a crop of watermelons. *Spring Garden Pictures; distributor: tba; director, producer, story: Richard Hoffmann; DP: Chase Bowman; plant photography: Tim Shepherd; score: Peter Tramo. Release: Spring 2013.*
- Principal story photography was completed in September 2011.
- Time-lapse plant photography began in December 2011 and will be completed in May 2012 .
- Additional story photography will be shot on farms in Pennsylvania in Summer 2012.

Outside In
SV2 Studios; distributor: tba; director, producer, writer: Stephen Van Vuuren; executive producer: Stephen Van Vuuren. 2D. ***Release: Summer 2013.***
- **Film is 60% complete.**

Wild Antarctica 3D (wt)
Giant Screen Films, Oceans 8 Productions; distributor: Giant Screen Films, D3D Cinema; director: John Bowermaster. Release: 2013.
- January: Filmed for four weeks in Antarctica.

Great White Shark 3D (wt)
Yes/No Productions; distributor: tba; directors, script, score: Stephen McNicholas, Luke Cresswell; producers: Stephen McNicholas, Luke Cresswell, DJ Roller; DP: D.J. Roller. ***Release: 2013.***
- **Summer-fall: Shooting in Malibu and Farralon Islands, CA; San Bonitos and Guadalupe, Mexico.**
- **Principal photography will be completed in the fall.**

Jerusalem 3D (wt)
Arcane Pictures/Cosmic Picture; distributor: tba; ***director: Daniel Ferguson;*** *producers: Taran Davies, George Duffield, Daniel Ferguson, Dominic Cunningham-Reid; script: Daniel Ferguson;* ***DP: Reed Smoot;*** *aerial DP: Ron Goodman; executive producer: Jake Eberts. Release: 2013.*
- April: filmed for three weeks in the old city of Jerusalem.
- **Additional shooting in Jerusalem in July.**

Stalingrad
Art Pictures Studio; digital distribuor: Art Pictures Studio; director: Fyodor Bondarchuk; producers: Sergey Melkumov, Alexander Rodnyansky, Dmitriy Rudovskiy; DP: Maksim Osadchiy; script: Ilya Tilkin. Release: 120 minutes. Oct. 3, 2013.
- Film will be converted to IMAX digital format with IMAX DMR.

Humpback Whales (wt)
MacGillivray Freeman Films; distributor: MacGillivray Freeman Films; director: Greg MacGillivray; producer: Shaun MacGillivray; script: Stephen Judson; DP: Brad Ohlund; score: Steve Wood. Release: Spring 2014.

Overlord**: **Normandy 1944 (wt)
N3D Land Productions; digital distributor: tbd; director: Pascal Vuong; producers: Catherine and Pascal Vuong; DP: Denis Lagrange; script: Pascal Vuong; executive producers: Catherine and Pascal Vuong. Shot in 5K. ***Release: June 2014.***
- **May: Creating new images at CGI houses in Paris and Montreal.**
- **Late May: shooting Memorial Day ceremonies at the American Cemetery in Colleville, France.**
- **June: Filming D-Day commemorations in Normandy.**

Photo by Nicholas Ruel. Arcane Pictures/Cosmic Picture.

The IMAX MSM camera films a rarely seen perspective of the Passover priestly blessing at the Western Wall in Jerusalem for Jerusalem 3D.

*(from **DOMES** on page 11)*

usually charged on a flat-fee basis. A range of fixed amounts (generally paid at the start of the license period) is set by each producer or distributor for each show, using criteria that include one or more of these factors: dome size, number of seats, total annual attendance at the theater, and resolution of the theater's fulldome system.)

I believe that for long-term growth, the digital dome sector must fully embrace the theatrical model of variable license fees — a percentage of box office or per head — instead of flat fees. Adopting variable license fees doesn't necessarily mean that *overall* license fees for fulldome theaters have to increase. Rather, it just means that a market-based price mechanism should be adopted, so that net theater revenues to the distributor are allocated in *direct* proportion to attendance and revenue to the film, or in other words, as a direct reflection of a film's popularity. This is also the fairest approach.

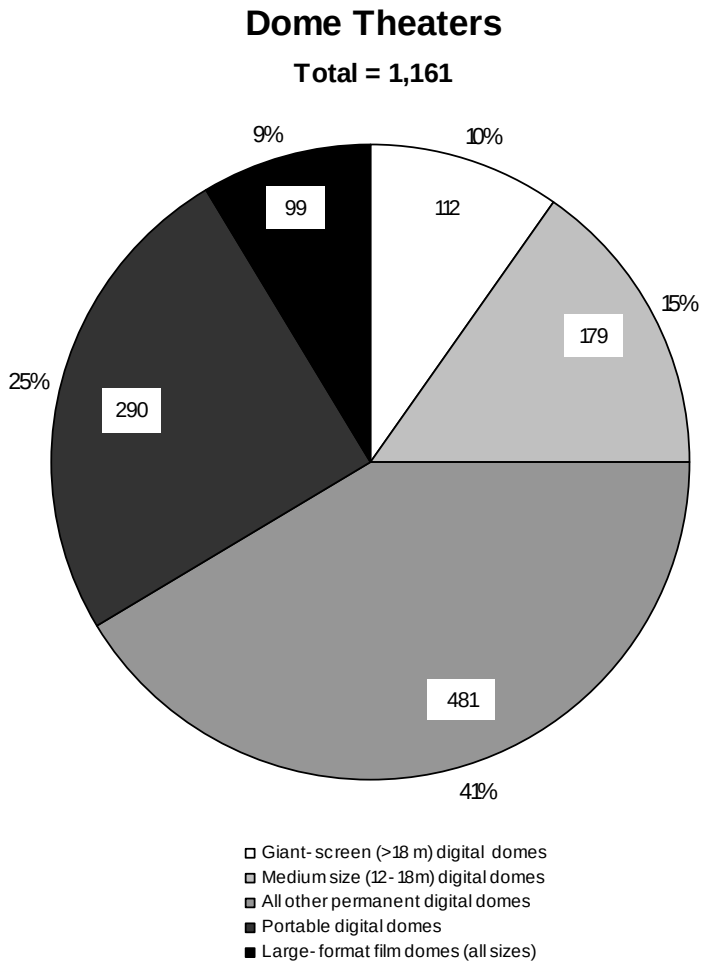
If variable license fee pricing is adopted, not only will producers will have a clear incentive to create better shows but distributors will be motivated to provide more marketing support to theaters. (At present, fulldome distributors generally spend very little on any kind of marketing support). This will lead to a more business-like approach, whereby fulldome theaters will be much more aware of how well individual shows are doing. When performance is constantly measured, the better shows will stay on the schedule and the less successful ones will be rotated out. It would probably also mean that theaters that don't charge admission for their fulldome shows would have an incentive to start. The fixed-fee approach leads to a "catalog" mentality, enabled by the distributors, under which theaters simply collect new titles like baseball cards, and play them to amortize their licensing costs, not necessarily according to audience demand.

As an aside, there are structural reasons why the many hundreds of small fulldome theaters are not likely to move to variable license fees anytime soon. Among them: operating as a cost center, with no way or need to count attendance or revenue, they have a fixed annual budget for new show licenses. If they are part of a university, college, or other school, as many are, they usually have modest budgets that demand the certainty of a fixed license fee. And no matter how much better one show may be than another, if they have a built-in flow of students as their only audience, better shows won't necessarily translate to more students attending.

Does this mean this segment should be ignored? No. If live-action film distributors accept these realities and the continuation of fixed-fee pricing, they can treat this as a secondary or ancillary segment. Even though revenues per screen may be relatively low ($5,000–$7,500 per title), the small screens are the largest and fastest growing segment, so aggregate distribution revenues could still be quite meaningful.

Digital dome distribution

A digital dome master is typically 4K x 4K. To be more precise, the current fulldome video frame has a 1:1 aspect ratio containing a polar circular image. Large-format film for domes uses the classic 4:3 aspect ratio. For giant-screen films to be projected on fulldome systems, a rectangular 4K x 3K digital master of the film needs to be reformatted to the 4K x 4K fulldome format, with its circular image area. So far, only two fulldome vendors — Evans & Sutherland and Sky-Skan — offer this reformatting service, each using a unique algorithm for reformatting (aka "stretching and warping") the 4:3 frame. Therefore, only E&S and Sky-Skan can distribute reformatted GS films to fulldome theaters at this time.



Sources: Fulldome screen counts are from Loch Ness Productions' Fulldome Compendium, April 2012; Large-format film dome counts are from the LF Examiner database as of April 2012. As noted in the text, at least 15 theaters are double counted because they have both film and digital dome systems.

The resulting dome master needs to be sliced (assuming multiple projectors) and encoded for each particular theater's system. Not only is fulldome slicing/encoding proprietary to each system vendor, but each theater (or type of projector configuration in the case of E&S theaters) requires a unique encoding of the video files for playback on its fulldome system. If an analogous process was required for film-based theaters, each GS film projector vendor would require a print-making *process* that is unique to its projectors, *plus* a unique *print* would have to be made for playback for *each* customer's system. In other words, for the most part, prints made for one theater could not be shared with another, even though they used the same vendor's system.

Clearly, the current process for converting and preparing giant-screen films for fulldome is complicated, costly, and time consuming. The reformatting process is proprietary to, and controlled by, each of only two fulldome vendors. Similarly, the slicing/encoding software is controlled by several hardware vendors, and they license it to their theater customers (but not to third-party distributors). Many theaters can't or won't do their own slicing/encoding, preferring instead to rely on their vendor. All of this is surely restricting the flow of reformatted giant-screen films and stifling potential competition from independent distributors.

Fulldome distribution logistics don't look very efficient to outsiders, especially for those producers who want to reformat their GS films for fulldome. How can this inefficiency be addressed? First, the reformatting process needs to be standardized and commoditized, possibly by the entry of digital post-production suppliers to the business. Secondly, the number of encoding formats should be reduced. Ultimately — in the longer term — digital domes need a true standard, requiring fewer projectors, ideally, just one powerful, high-resolution projector (although this is probably more than five years away), so that no slicing is required, with a single codec and file type.

This is what was mandated by the **Digital Cinema Initiatives** (DCI) specification for Hollywood's digital cinema system. The **Digital Immersive Giant Screen Specifications** (DIGSS) process attempted to build on DCI, for domes as well as flat screen, using the 4:3 frame. In the short run, convergence would be facilitated if the hardware vendors licensed their slicing/encoding software to independent distributors or if more of them provided a cost-effective service on the distributor's behalf.

Digital dome content

If true convergence is to happen, then fulldome theaters will expand their acceptance of documentary content other than astronomy, and film domes will embrace real-time and pre-rendered digital planetarium content. Fulldome theaters are showing promising signs of movement with their growing acceptance of reformatted giant-screen films and newer digital fulldome productions with science topics outside of astronomy. However, the reverse is not yet true for giant-screen domes.

Dan Neafus is operations manager of the Gates Planetarium at the **Denver Museum of Nature and Science** and a co-founder of **IMERSA**, the industry association most active in promoting convergence of dome theaters. He is hopeful that digital domes will explore a wide array of content, but is "skeptical" that there will be true convergence in content between these two camps. He points out that film domes are used to programming bigger-budget, longer films, whereas digital fulldome theaters are used to shorter films, with smaller budgets, which translate to lower license fees. (This could be addressed by producers of 40-minute films releasing 20–25 minute versions for planetarium fulldome theaters.) Further, as Neafus explains, the "big delineator" will be the use (or not) of live planetarium shows that mix sophisticated software and in-theater technical tools with a human presenter and good, old-fashioned showmanship. Film dome theaters run pre-produced content almost exclusively, so adopting this approach would be quite a change.

That said, **Michael Daut**, director of show production/marketing for Evans & Sutherland, thinks this should be put in perspective; except for the small digital domes used by universities and schools, "many planetarium theaters run more films in their schedules than live shows."

Signs that film domes have begun to "multiplex" their theaters by adding digital media and live presenters to their programming were seen in the recent GSCA Dome Theaters survey, whose results I presented at the recent GSCA Film Expo: 41% of our dome theater respondents who had a large-format film system *also* programmed digital media (including fulldome video in several cases) and live presentations. Further, better-than-average annual attendance correlated with the addition of *non*-large-format film programming at a dome theater that offers LF films. This latter finding wasn't a surprise to many in the fulldome business, including **Steve Savage**, president of Sky-Skan. For him, this finding validates his belief that the standards being created under the DIGSS umbrella should be allowed to evolve so that "more freedom is allowed to occur."

Conversely, more and more planetarium theaters are starting to accept non-astronomy programming, including giant-screen film transfers, in their efforts to reach a wider audience.

Digital dome standards

Perhaps the second biggest obstacle to dome convergence is the need for a unified set of standards for the digital dome. This is going to take leadership from key industry stakeholders and the relevant trade associations, such as GSCA and IMERSA. DIGSS is fine start for the giant-screen domes, though version 1.0 still needs to be activated (by GSCA) and a "V2.0" will be needed before too long. However, DIGSS and DCI are designed for cinemas; they don't accommodate real-time planetarium content. And higher frame rates for the higher resolution projectors are needed. Daut says that "60 fps is critical for moving through the universe," because without the higher frame rate, "stars will tend to blur and actually double when flying at even moderate speeds. We have been exploring higher frame rates and their effect on the audi-

*(see **DOMES** on page 16)*

*(from **DOMES** on page 15)*
ence experience with our partner **Doug Trumbull**, and the **Clark Planetarium** in Salt Lake City."

Martin Howe, chief executive of Global Immersion, weighs in on the standards discussion: "DCI is far too specific to the cinema market. However DIGSS could easily be adopted to encourage DCI-like standards for fulldome projection. DIGSS should be updated to provide realistic and achievable specifications for fulldome systems — some of the specs are so far off at the moment they are pointless."

The reality is that a converged digital dome market may need standards for both 4K x 4K (for planetarium content), and 4K x 3K (for live-action documentaries), for many years. "Choosing one or the other is by its nature exclusionary," says E&S's Daut. For instance, the 4K x 3K format only covers part of the dome and "will not work for real-time astronomy or shows designed specifically for fulldome."

And what about an open, digital dome system? "I thought everyone wanted an open system, but as it turns out, not so," laments Sky-Skan's Savage, referring to the film domes that are taking a wait-and-see approach, delaying their digital transition plans until **Imax Corporation** unveils its new digital dome solution, which might not be a fully (100%) open system if the current IMAX flat-screen digital platform is a guide.

Is convergence a good thing? The answer depends on whom you ask. Pooling the interests and buying power of the larger domes especially is more likely to lead to live-action, dome-centric programming that domes want, and more sophisticated CGI productions with bigger budgets and higher production values.

For a live-action producer, the small digital domes may not be the core customer, but they can still offer a substantial ancillary revenue opportunity, much the way home video/DVD is a meaningful but later release window for feature films. A bigger installed base of digital domes creates an incentive for equipment suppliers to create more powerful and flexible digital systems.

As mentioned previously, the combined market of LF film dome theaters, plus medium and giant-screen fulldome theaters, is almost 400. One would think there is strength in these numbers. But the picture isn't as is rosy as it may appear, especially for the GS film producers thinking they see a potential market that is four times larger. First, you have to subtract the fulldome theaters that will not show any non-astronomy content. Next, subtract those who won't venture far from "earth sciences." Then subtract those with level or low-tilt domes, or seating patterns other than unidirectional, that make it difficult to view the image. Finally, think about the content, framing, and editing of a film, and actually test how it looks in fulldome. In other words, assessing the fulldome distribution potential of GS films is a more severe version of what goes on in giant-screen film world. If a GS film doesn't look great in a GS film dome, those problematic scenes will probably look even worse in fulldome. But the converse can sometimes be true as well — content like underwater scenes can be more impressive in fulldome.

On the other hand, planetarium professionals who pride themselves in their role as astronomy educators may not be as enamored with the convergence if it means fewer schedule slots available for astronomy shows and presenter-led real-time shows. Conversely, a film dome theater with no heritage of showing CGI productions about astronomy subjects won't easily reposition itself for this type of content. Perhaps the way to think of convergence is that it is "more of a [multi-lane] highway merge," says Neafus. "Two established freeways are merging into a new superhighway and construction problems and confusion are inevitable." The on-ramps accommodate newcomers that are trying to merge with the crowd. Off-ramps are provided for those that choose to go their own way, building new roads. Some cars stay on for a while, some may leave.

For all the growth in the digital fulldome marketplace and its continuing prospects, Neafus cautions, "keep in mind, it's not going to be an explosive growth of thousands of screens like we saw with multiplex digital 3D conversion." And there won't be many more new giant-screen domes built in the future. Global Immersion's Howe sees growth remaining especially strong in the emerging markets, such as Brazil, Russia, India, and China. "There's a push to build more science centers due to governmental initiatives to promote STEM education," he explains. "Producers and distributors need to think about these market opportunities. Our industry groups are still very U.S.- and western-centric." All the more reason for industry stakeholders to take a careful, long-term view and work together to find consensus solutions.

The dome convergence discussion tends to assume the continuation of content types that are the staple of dome theaters' programming today. But what if a new content form takes hold with digital dome platforms? Perhaps convergence will be driven by new digital interactive content that is well suited to the immersive geometry of dome theaters. As Howe says, "interactivity has been prototyped in many domes over many years. The use-case hasn't proven to be 'sticky' enough yet, but the technology is there, now it's just waiting for the killer app." Daut sees the uniqueness of dome geometry propelling the LF film domes to digital dome solutions, "The unique quality of immersion in domes is unlike any other medium, and the power of dome experiences will help drive this convergence."

Even if some form of convergence is inevitable, the speed of it is uncertain. Savage offers his take on the challenges: "You'd think it [convergence] would be easy, but actually it's wicked complicated. From a technology point of view, no problem. The hard part is programming." Thinking about how creating new or repurposed programming for an expanded market is linked to longstanding relationships, he sums up by stating that achieving convergence, after all, "is not about technology, it's about people."

Paul Fraser is president of Blaze Digital Cinema Works (www.blazedigitalcinema.com). Blaze's assignments have included digital fulldome distribution and production, and helping film domes plan for adding digital solutions. Fraser is also a GSCA board member, and a volunteer advisor to the IMERSA board of directors.

Premiering This Month

Titanic 3D

"On April 4, 2012, a century after the historic ship's sinking and 15 years after the film's initial theatrical release, see Titanic as you have never seen it before...in a conversion overseen by James Cameron, featuring a dynamic 3D presentation, restored and enhanced audio, and a digitally re-mastered picture. A timeless love story born of tragedy that created an international phenomenon as vast as its name, *Titanic* set sail in 1997, winning 11 Academy Awards and grossing over $1.8 billion worldwide."

Directed and written by **James Cameron**, produced by James Cameron and **Jon Landau**. Photographed by **Russell Carpenter** and scored by **James Horner**. Executive producer: **Rae Sanchini**. Starring **Leonardo DiCaprio**, **Kate Winslet**, **Billy Zane**, **Kathy Bates**, **Frances Fisher**, **Gloria Stuart**, **Bill Paxton**. Produced by **Lightstorm Entertainment** and distributed by **Paramount Pictures**. Rated PG-13 for disaster-related peril and violence, nudity, sensuality, and brief language. 194 minutes. Release: April 4.

Air Racers 3D: Forces of Flight

"Fly into Nevada's 'Valley of Speed' for a breathtaking exploration of the fastest race in the world combined with spectacular air show entertainment: the legendary Reno National Championship Air Races. Join today's piloting elite as they fight for position, wingtip-to-wingtip, and skim 50 feet (15 m) above the ground around an oval course at twice the speed of a NASCAR race. Discover this ultra-competitive world through the eyes of rookie pilot Steve Hinton Jr. as he attempts to fly his P-51 Mustang fighter plane to victory in the most highly anticipated and unpredictable race class. Learn about the history and science behind the sport, whose concept dates back to the dawn of aviation, and see top-notch aerobatic performers, including the Canadian Forces Snowbirds. With spectacular aerial photography filmed entirely in 3D and unprecedented access granted to the course, Air Racers puts you in the cockpit to experience the intensity and high-speed thrills of a sports event like no other."

Directed by **Christian Fry** and **Jean-Jacques Mantello**, produced by **Raul Leckie** and Christian Fry, written by Christian Fry and **Rick Dowlearn**, and scored by **Christophe Jacquelin**. Executive producers: **François Mantello**, **John Constantine**, **Jeffery Pierce**. Cast: **Steve Hinton, Jr.**, **Matt Jackson**, **Brian** and **Dennis Sanders**. Narrator: **Paul Walker**. Produced by **3D Entertainment Films**, **Pretend Entertainment**, **Stereoscope**, and distributed by **3D Entertainment Distribution**. Release: April 5.

To the Arctic 3D

"***To the Arctic 3D*** will transport audiences to the ocean and tundra of the far north to witness the amazing richness and complexity of this environment. Venture across floating ice with a mother polar bear and her two cubs as they struggle to survive. Discover the extraordinary underwater world of the Arctic sea with beluga whales, Greenland sharks and walruses. Fly above a thundering herd of caribou making their way to their calving ground. A visually breathtaking story of life in the Arctic and the rapid changes occurring there because of climate change."

Directed by **Greg MacGillivray**, produced by **Shaun MacGillivray**, written by **Stephen Judson**, and photographed by **Brad Ohlund**. Executive producers: **Tom Campion**, **Harrison Smith**, **Chat Reynders**, **Greg Foster**. Narrated by **Meryl Streep**. Produced by **MacGillivray Freeman Films** and distributed by **Warner Bros.** and **Imax Corporation**. Release: April 20.

To The Arctic

MacGillivray Freeman Films

Worldwide GS and IMAX Theaters

As of April 1, 2012

C = Commercial Standalone
CM = Multiplex
CT = Theme Park
I = Institutional

By Format and Operator Type

		C	CM	CT	I	Total
Africa	D		1			1
	8/70				1	
	10/70				1	1
	15/70				1	1
	Total		1		3	4
Asia/Pac	D		100	1	11	112
	8/70	1			10	11
	10/70				11	11
	15/70	5	4	1	26	36
	Total	6	104	2	28	170
Europe	D	2	63	2	3	70
	8/70	2	3	1	8	14
	15/70	6	5	5	11	27
	Total	10	71	8	22	111
Middle East	D		5			5
	8/70		1			1
	15/70		1		2	3
	Total		7		2	9
North America	D	3	284		23	310
	8/70	4		1	14	19
	15/70	20	16	1	79	116
	Total	27	300	2	116	445
South America	D	1	4			5
	8/70				1	1
	15/70	1	1		1	3
	Total	2	5		2	9
World	D	6	456	3	37	502
	8/70	7	4	2	34	47
	10/70				12	12
	15/70	32	27	7	120	186
	Total	45	487	12	203	747

By 2D / 3D

	2D	3D	Total
Africa	2	2	4
Asia/Pac	52	118	170
Europe	26	84	110
ME	2	7	9
NA	80	362	442
SA	2	7	9
Total	164	580	744

By Screen

	Dome	Flat	Comb	Total
Africa	2	2		4
Asia/Pac	42	128		170
Europe	14	94	2	110
ME	1	8		9
NA	48	392	2	442
SA	2	7		9
Total	109	631	4	744

Bookings: April 2012 by Film

422 bookings of 74 films in 203 theaters

NOTE

Based on comments from readers and our own perceptions, we have changed what we include in our bookings listings. We no longer list Hollywood films shown in multiplex IMAX theaters. Those films will be listed when they are shown in non-multiplex theaters, and conversely, non-Hollywood giant-screen films showing on multiplex IMAX screens will also be listed.

The reason for making this change is that, for the most part, nearly all multiplex screens show nearly all DMR films, and their inclusion significantly increased the number of listings shown each month. This made it harder for our readers, most of whom are more concerned with non-Hollywood product, to winnow out the information about the films and theaters they are most interested in.

We welcome your comments about this change.

Listings shown in **bold face** below are new or updated listings. The rest are unchanged from the previous month's issue.

The data on the following pages are ***not*** warranted to be comprehensive or accurate in every detail, despite our best efforts to make them so. They have been compiled from theater surveys, distributors, the Web, and other sources.

We will make every effort to improve the thoroughness, and accuracy of these data. If your theater or film is not shown here, please get in touch with us to update our listings.

Where a date is not shown, it means that no date was provided by the source or, in the case of a closing date, that no date has been set, or that the run is indefinite.

The key to film abbreviations is on page 21.

Film	Theater	Open	Close
AfricAdv	Berlin CS	5/18/11	4/30/12
AirRacer	**Columbus GA**	**4/5/12**	**12/31/12**
	Huntsville USSRC	**4/5/12**	**12/31/12**
	Hutchinson	**4/5/12**	**12/31/12**
	Pensacola NAM	**4/5/12**	**12/31/12**
AIWC	San Diego RHF	12/14/11	9/30/12
Alamo	San Antonio 2D		
AllAcces	Louisville SC	1/23/12	
Amazon	Kolkata SC	12/22/11	6/21/12
	Lucknow	**1/23/12**	**6/23/12**
Animalop	Detroit SC	3/18/09	3/13
	Orlando SC	5/15/11	5/15/12
	Tijuana	7/1/10	7/12
Arabia3D	Al Khobar	6/23/11	6/22/12
	Dongguan STM	3/1/12	2/13
	Galveston	1/1/12	12/31/12
	Orlando SC	8/20/11	9/15/12
	Regina	10/7/11	4/6/12
	Sinsheim	10/20/11	12/31/12
	Vancouver TWS	11/25/11	11/25/12
Bears	**Lubbock**	**9/23/11**	**9/30/12**
Beavers	Erie	6/1/11	5/30/12
	Victoria DCI	9/20/11	9/20/12
BTBW	Fort Worth	12/26/11	
	Norwalk	**4/8/11**	**9/3/12**
	San Diego RHF	**5/13/11**	
Bugs	Columbus COSI	1/12/12	5/19/12
	Galveston	10/11	5/12
	Toronto OP	5/21/11	4/12
CRA	Philadelphia FI	9/6/11	9/5/12
	Reno Fleisch	1/21/12	5/28/12
	San Diego RHF	**3/11/12**	**12/12**
	Singapore SC	3/1/12	6/30/12
	Tampa MOSI	11/11/11	5/10/12
D&W3D	**Copenhagen**	**4/3/09**	**12/12**
	Nuremberg	1/1/12	6/30/12
DinoAliv	Cairo MEC	1/1/12	7/1/12
	Denver MNS	9/15/11	9/15/12
	Lehi	6/1/11	5/31/12
	London BFI	7/1/11	7/1/12
	Oulu	1/1/12	12/31/12
	Saint John's JGC	7/1/11	7/1/12
	Vancouver TWS	7/30/11	7/31/12
Dolphins	**Boston MOS**	**2/13/12**	**9/3/12**
	Guayaquil	**3/19/12**	**3/18/13**
	Hague	10/11/11	12/31/12
	San Diego RHF	12/14/11	9/30/12
	Speyer Dome	1/12	12/12
	Spokane RP	7/1/11	6/30/12
	Sudbury	7/15/11	6/30/12
DPTP	Lehi	11/4/11	11/12
Everest	Alamogordo	10/10/11	4/30/12
	Beijing CSTM 3D	12/1/11	11/30/12
	Poitiers Imax	12/17/11	1/13/13
Extreme	Melbourne MV	1/1/12	4/30/12
FightPil	Chantilly	12/10/04	7/12
	Corpus Christi	2/3/05	7/12
	Dayton	12/3/04	7/12
	McMinnville	3/21/07	7/12
	Pensacola NAM	6/8/11	7/12
FlyMons	Tampa MOSI	2/17/12	
FMTTM	Glasgow	6/6/09	5/31/12
FON	**Raleigh**	**2/1/12**	**6/12**
FSOS	Shari		
GC	Grand Canyon DCI	11/1/99	12/13
GCA	Chandigarh	1/1/12	12/31/12
	Sinsheim	10/31/09	12/31/12
	Spokane RP	7/1/11	6/30/12
GP	**Guayaquil**	**3/19/12**	**3/18/13**
Greece	Boston MOS	10/1/11	9/30/12
HaunCast	Berlin CS I	4/5/01	
HCBTD	San Simeon DCI	8/17/96	
HOTB	Charleston SC	1/4/12	9/3/12
	New Orleans	8/29/06	
	Reno Fleisch	6/1/11	5/31/12
HungGame	Hampton VASC	3/23/12	4/12
	Raleigh	**3/23/12**	**5/12**
	Saint Augustine	3/23/12	4/12
	Salt Lake City Clark	3/23/12	4/12
	Seattle PSC 1	3/23/12	4/12
JIAC	Kolkata Cma	1/24/12	12/23/12
	Omaha Zoo	**8/1/11**	**4/30/12**
	San Diego RHF	12/14/11	9/30/12
	Singapore SC	1/1/12	4/30/12
	Spokane RP	7/1/11	6/30/12
	Yellowstone	**7/28/10**	**4/12**
JohnCart	Beijing CFM	4/13/12	4/12
	Chongqing STM	4/13/12	4/12
	Suzhou SCAC	4/13/12	4/12
	Xi'ian DMP	4/13/12	4/12
JTM	Al Khobar	10/11	4/12
	Casablanca	12/1/11	11/30/12
	Jakarta	10/11	6/12
	London BFI	1/1/12	6/30/12
	Shanghai STM 3D	11/1/11	10/31/12
LastReef	Albuquerque NMMMH	3/15/12	3/15/13
	Birmingham AL	3/16/12	3/16/13
	Birmingham UK	3/15/12	3/15/13
	Chattanooga TA	3/1/12	3/1/13
	Davenport Put	2/3/12	2/3/13
	Kuwait SCK	1/26/12	7/31/12
	Lubbock	**4/27/12**	**4/27/13**
	Mexico City Pap	**4/1/12**	**3/31/13**
	Montreal SC	**2/24/12**	**2/24/13**
	Stockholm	3/5/12	3/5/13
LivingSe	**Branson**	**3/19/12**	**5/19/12**
	San Diego RHF	12/14/11	9/30/12
LOF	Berlin CS	5/18/11	5/18/12
	Chantilly	6/11/10	6/9/12
	Dubai MR	**4/30/12**	**4/30/13**
	Fujisawa I	11/2/11	4/22/12
	Hampton VASC	10/15/10	
	Hartford CSC	7/8/10	6/30/12
	Katowice CC	9/15/11	9/15/12
	Krakow CC	9/15/11	9/15/12
	Lodz CC	9/15/11	9/15/12
	McMinnville	7/7/10	6/18/12
	Moscow Nes	10/17/11	10/31/12
	Poznan CC	9/15/11	9/15/12
	Prague CC	9/15/11	9/22/12
	Saint Augustine	9/30/11	9/30/12
	Seoul 63	9/1/11	5/19/12
	Sinsheim	4/7/11	4/14/12
	Sudbury	10/3/11	4/14/12
	Toluca MCIM	**3/29/12**	**9/29/12**
	Warsaw CC	9/15/11	9/15/12
	Washington NASM	6/11/10	6/8/12
LOLL	Loch Lomond	7/24/02	
MOF	Pensacola NAM	11/8/96	
	Speyer Dome	12/5/11	12/31/12
MOTGL	Batavia GQT	1/14/11	1/13/13
	Branson	3/17/11	12/31/12
	Cincinnati MC	7/14/10	7/2/12
	Denver MNS	6/6/11	6/30/12
	Dickson City GE	2/1/11	1/31/13
	Grand Rapids Cel	5/6/11	4/1/12
	Noblesville GQT	2/23/11	1/13/13
	Portage GQT	2/16/11	1/13/13
	Simpsonville GE	2/1/11	1/31/13
	Syracuse	7/2/11	7/1/12
	Taipei AM	7/20/11	6/30/12
MOTN	Alexandria BA	1/5/12	6/5/12
	Athens Eug	5/3/11	5/2/12
	Beijing CSTM 3D	12/1/11	11/12
	Speyer Dome	1/1/12	12/31/12
MTTM	Saint Louis SC	10/29/09	6/12
Mummies	**Baton Rouge LASM**	**11/1/11**	**5/31/12**
	Birmingham UK	11/1/11	11/1/12
	Charlotte DP	11/11/11	11/11/12
	Des Moines	11/11/11	11/11/12
	Jackson MS	**3/1/12**	**3/1/13**
	London BFI	7/1/11	7/1/12
	Penrith	9/1/10	4/30/12
	Rochester MSC	4/11/11	4/8/12
	Schenectady	11/1/11	4/30/12
	Tampa MOSI	**4/15/12**	**4/15/13**
ND	New Delhi ICC		
Niagara	Niagara Can DCI	7/1/86	
	Niagara NY DCI	5/1/07	
OW3D	**Austin TSHM**	**1/1/12**	**12/31/12**
	Nuremberg	1/1/12	6/30/12
Ozarks	Branson	1/93	12/13
RATW	Lucerne	11/1/10	12/31/12
Rescue	Birmingham AL	1/12/12	7/12
	Branson	**3/9/12**	**5/10/12**
	Chantilly	**4/27/12**	**4/27/13**
	Dayton	6/17/11	6/12
	Dearborn	10/1/11	10/12
	Edmonton TWS	10/8/11	6/7/12
	Indianapolis Imx	1/20/12	5/31/12
	Lehi	9/16/11	4/30/12
	Saint Augustine	9/30/11	9/30/12
	San Diego RHF	1/6/12	4/20/12
	Seoul 63	12/4/11	5/20/12
	Singapore DC	8/1/11	11/1/12
	Speyer Dome	**4/27/12**	**4/27/13**
	Spokane RP	**4/1/12**	**12/31/12**
	Washington NASM	**6/9/11**	**7/4/12**
Rheged	Penrith	7/1/00	
RME	Baltimore MSC	11/11/11	9/12
	Chicago MSI	10/7/11	9/12
	Cincinnati MC	10/14/11	9/12
	Gatineau	9/30/11	9/12
	Lubbock	11/11/11	9/30/12
	Pittsburgh CSC	11/25/11	9/12
	Seattle PSC 2	10/14/11	9/12
	Toronto OSC	10/1/11	9/12
	Vancouver TWS	4/8/12	12/12
	Victoria DCI	3/16/12	12/12
ROF	**Al Khobar**	**12/10/11**	**6/9/12**
	Baltimore MSC	**7/1/11**	**6/30/12**
	Boston MOS	10/1/11	9/30/12
	Guayaquil	**3/19/12**	**3/18/13**
	Rochester MSC	12/1/11	11/30/12
SC	Taipei AM	1/1/12	12/31/12
SeaRex	**Baltimore MSC**	**2/2/12**	**12/31/12**
	Batavia GQT	10/14/11	6/30/12
	Berlin CS	1/1/12	6/30/12
	Birmingham UK	10/22/11	6/12
	Bucharest CC	9/16/11	6/30/12
	Cathedral City	10/14/11	6/30/12
	Copenhagen	2/11/11	6/12
	Dallas MNS	5/26/11	6/30/12
	Des Moines	1/6/12	6/30/12
	Fort Lauderdale	9/5/11	6/30/12
	Glasgow	**3/30/12**	**12/31/12**
	Hartberg	7/1/11	6/30/12
	Hartford CSC	**12/18/10**	**12/31/12**
	Hong Kong SM	**3/31/12**	**6/30/12**
	Katowice CC	4/27/11	6/30/12
	Krakow CC	4/27/11	6/30/12
	Kuwait SCK	2/18/11	6/30/12
	Leon Exp	12/1/11	6/30/12
	Lodz CC	4/27/11	6/30/12
	Lucerne	9/15/11	6/30/12
	Mexicali	**3/15/12**	**12/31/12**
	Mobile	1/28/12	6/30/12
	Noblesville GQT	10/14/11	6/30/12
	Norwalk	**1/13/12**	**9/3/12**
	Nuremberg	1/1/12	6/30/12
	Paris Geo	2/1/11	6/30/12
	Portage GQT	10/14/11	6/30/12
	Poznan CC	4/27/11	6/30/12
	Prague CC	1/1/12	6/30/12
	Quebec	2/3/12	12/31/12
	San Diego NHM	12/1/11	6/30/12
	Seattle PSC 2	1/17/12	6/30/12
	Taipei AM	10/10/11	6/30/12
	Victoria DCI	9/2/11	6/30/12
	Warsaw CC	4/27/11	6/30/12
SFTGS	**Norwalk**	**1/13/12**	**9/3/12**
Sharks3D	Bogota Mal	1/1/12	6/30/12
	Boston NEA	**4/8/11**	**12/31/12**
	Dallas MNS	11/2/11	6/30/12

Film	Theater	Open	Close
	Davenport Put	2/1/12	6/30/12
	Galveston	1/1/12	6/30/12
	Garden City	**1/21/11**	**12/12**
	Hartberg	4/22/10	6/12
	Omaha Zoo	**2/1/12**	**12/31/12**
	Parker	**1/1/12**	**12/31/12**
	San Diego NHM	12/1/11	6/30/12
SpacJunk	Birmingham UK	1/1/12	1/1/13
	Chicago UT AP	**1/27/12**	**2/3/13**
	Houston MNS	2/24/12	5/28/12
	Huntsville USSRC	2/18/12	2/18/13
	Jersey City	**2/10/12**	**8/16/12**
	Saint Louis SC	**1/13/12**	**8/16/12**
	Salt Lake City Clark	**2/9/12**	**8/3/12**
	Tallahassee CLC	2/10/12	2/10/13
SU	Pensacola NAM	12/15/11	12/15/12
TA	Austin TSHM	3/18/11	9/18/12
	Birmingham AL	**3/23/11**	**12/31/12**
	Birmingham UK	11/1/11	11/1/12
	Boston MOS	**3/18/11**	**6/18/13**
	Branson	**3/18/11**	**5/31/12**
	Charlotte DP	**3/18/11**	**3/18/13**
	Chattanooga TA	9/30/11	9/30/12
	Chicago MSI	**3/18/11**	**3/18/13**
	Cincinnati MC	**3/30/11**	**3/30/13**
	Cleveland	**3/18/11**	**12/31/12**
	Columbus COSI	12/26/11	12/26/12
	Copenhagen	10/15/11	10/15/12
	Dearborn	10/1/11	10/1/12
	Denver MNS	1/27/12	1/27/13
	Des Moines	3/23/11	9/23/12
	Fort Worth	**3/23/11**	**3/23/13**
	Garden City	**4/1/11**	**3/31/13**
	Harrisburg	2/1/12	2/1/13
	Hastings	**4/1/12**	**4/1/13**
	Hutchinson	**3/23/11**	**9/30/12**
	Jersey City	**3/18/11**	**3/18/13**
	Louisville SC	11/1/11	11/1/12
	Lubbock	**3/18/11**	**12/31/12**
	Lucerne	11/24/11	12/31/12
	Milwaukee	3/23/11	4/23/12
	Oklahoma City SMO	**3/9/12**	**3/9/13**
	Omaha Zoo	6/1/11	5/31/12
	Orlando SC	**3/1/12**	**3/1/13**
	Philadelphia FI	**3/18/11**	**12/31/12**
	Pittsburgh CSC	3/25/11	9/25/12
	Portland OMSI	6/15/11	12/15/12
	Raleigh	10/29/11	10/31/12
	Regina	2/20/12	2/20/13
	Sacramento Imx	1/20/12	1/31/13
	Saint Louis SC	**3/23/11**	**3/23/13**
	San Antonio 3D	9/30/11	9/30/12
	San Diego RHF	**3/18/11**	**12/31/12**
	Seattle PSC 2	12/20/11	12/20/12
	Shreveport	7/1/11	7/1/12
	Singapore DC	**4/1/12**	**12/31/13**
	Spokane RP	**3/1/12**	**3/1/13**
	Sudbury	**4/1/12**	**4/1/13**
	Tijuana	10/29/11	4/30/12
	Toronto OSC	3/25/11	9/25/12
	Victoria DCI	11/1/11	11/1/12
	Washington NASM	6/1/11	6/1/12
	Winnipeg PP	9/30/11	9/30/12
	Zion	10/1/11	10/1/12
Titani40	**Fort Worth**	**4/15/12**	**10/12/12**
Titanic3	Dearborn	4/4/12	5/12
	London BFI	4/4/12	5/12
	Sydney WBS	4/4/12	5/12
ToFly	Taichung NMNS	1/1/12	12/31/12
	Washington NASM	7/1/76	
TTA	**Apple Valley Imx**	**4/20/12**	**8/12**
	Atlanta FMNH	**4/20/12**	**8/12**
	Atlantic City	**4/20/12**	**8/12**
	Austin TSHM	**4/20/12**	**8/12**
	Boston MOS	**4/20/12**	**8/12**
	Boston NEA	**4/20/12**	**8/12**
	Branson	**4/20/12**	**8/12**
	Cathedral City	**4/20/12**	**8/12**
	Charlotte DP	**4/20/12**	**8/12**
	Chattanooga TA	**4/20/12**	**8/12**
	Chicago Imx	**4/20/12**	**8/12**
	Cincinnati MC	**4/20/12**	**8/12**
	Cleveland	**4/20/12**	**8/12**
	Denver MNS	**4/20/12**	**8/12**
	Des Moines	**4/20/12**	**8/12**
	Edmonton TWS	**4/20/12**	**8/12**
	Fort Lauderdale	**4/20/12**	**8/12**
	Fort Worth	**4/20/12**	**8/12**
	Galveston	**4/20/12**	**8/12**
	Gatineau	**4/20/12**	**8/12**
	Hampton VASC	**4/20/12**	**8/12**
	Indianapolis Imx	**4/20/12**	**8/12**
	Irvine Reg	**4/20/12**	**8/12**
	Jersey City	**4/20/12**	**8/12**
	Los Angeles CSC	**4/20/12**	**8/12**
	Louisville SC	**4/20/12**	**8/12**
	New York LS AMC	**4/20/12**	**8/12**
	Norwalk	**4/20/12**	**9/3/12**
	Omaha Zoo	**4/20/12**	**8/12**
	Portland OMSI	**4/20/12**	**8/12**
	Quebec	**4/20/12**	**8/12**
	Raleigh	4/20/12	10/12
	Regina	**4/20/12**	**8/12**
	Richmond SMV	**4/20/12**	**8/12**
	Sacramento Imx	**4/20/12**	**8/12**
	Saint Augustine	**4/20/12**	**8/12**
	Saint Louis SC	**4/20/12**	**8/12**
	Salt Lake City Clark	**4/20/12**	**8/12**
	San Diego RHF	**4/20/12**	**8/12**
	San Jose Tech	**4/20/12**	**8/12**
	Seattle PSC 2	**4/20/12**	**8/12**
	Shreveport	**4/20/12**	**8/12**
	Spokane RP	**4/20/12**	**8/12**
	Tallahassee CLC	**4/20/12**	**8/12**
	Tampa MOSI	**4/20/12**	**8/12**
	Toronto OSC	**4/20/12**	**8/12**
	Virginia Beach AMSC	**4/20/12**	**8/12**
	Washington NMNH	**4/20/12**	**8/12**
	West Nyack Imx	**4/20/12**	**8/12**
	Winnipeg PP	**4/20/12**	**8/12**
TTL	**Baltimore MSC**	**1/12**	**6/14/12**
UnderSea	**Raleigh**	**4/12**	**7/12**
UWT3D	Apple Valley Imx	3/3/11	5/1/12
	Atlantic City	2/1/12	4/30/12
	Berlin CS I	6/3/10	5/12
	Chongqing STM	10/20/11	11/20/12
	Cleveland	11/18/11	5/28/12
	Greensboro	**6/15/11**	**6/15/12**
	Houston MNS	2/24/12	5/25/12
	Kenner	9/1/11	9/1/12
	Krasnodar	8/17/11	8/17/12
	Moscow Kar	8/17/11	8/17/12
	Moscow Khi KS	8/17/11	8/17/12
	Moscow NY KS	8/17/11	8/17/12
	Moscow TS KS	8/17/11	8/17/12
	Novosibirsk CP	8/17/11	8/17/12
	Penrith	**7/23/11**	**4/30/12**
	Portland OMSI	5/3/11	5/3/12
	Raleigh	**2/2/11**	**2/28/13**
	Saint Augustine	**1/25/11**	**1/25/13**
	Saint Petersburg Kar	8/17/11	8/17/12
	Saint Petersburg KS	8/17/11	8/17/12
	Saratov CP	8/17/11	8/17/12
	Seoul 63	6/1/11	5/19/12
	Taipei MCRC	12/10/11	6/9/12
	Toluca Cpl	1/20/12	6/15/12
	Ufa CP	8/17/11	8/17/12
	Voronezh CP	8/17/11	8/17/12
	Yekaterinburg CP	8/17/11	8/17/12
VanGogh	**Hague**	**2/2/09**	**5/16/12**
Vulcania	Vulcania	2/22/02	
WATE	Katoomba	6/1/97	
WildOcea	Baltimore MSC	6/1/11	7/31/12
	Birmingham UK	11/1/11	11/1/12
	Columbus COSI	**3/1/12**	**9/1/12**
	Galveston	6/17/09	7/31/12
	Jackson MS	**3/1/12**	**3/1/13**
	London BFI	7/1/11	7/1/12
	Sudbury	5/1/11	4/30/12
WOTT	**Apple Valley Imx**	**3/30/12**	**5/12**
	Atlantic City	**3/30/12**	**5/12**
	Bogota PA	**3/30/12**	**5/12**
	Cathedral City	**3/30/12**	**5/12**
	Chantilly	**3/30/12**	**5/12**
	Chicago Imx	**3/30/12**	**5/12**
	Fort Lauderdale	**3/30/12**	**5/12**
	Guayaquil	**3/30/12**	**5/12**
	Hampton VASC	**3/30/12**	**5/12**
	London BFI	**3/30/12**	**5/12**
	Madrid	**3/30/12**	**5/12**
	Melbourne MV	**3/30/12**	**5/12**
	Natick JF	**3/30/12**	**5/12**
	Port of Spain	**3/30/12**	**5/12**
	Quebec	**3/30/12**	**5/12**
	Reading JF	**3/30/12**	**5/12**
	Sacramento Imx	**3/30/12**	**5/12**
	Salt Lake City Clark	**3/30/12**	**5/12**
	Seattle PSC 2	**3/30/12**	**5/12**
	Suzhou SCAC	**3/30/12**	**5/12**
	Sydney WBS	**3/30/12**	**5/12**
	Taipei Mir	**3/30/12**	**5/12**
	Tempe Har	**3/30/12**	**5/12**
	West Nyack Imx	**3/30/12**	**5/12**
	Xi'ian DMP	**3/30/12**	**5/12**
WTTR3D	Columbus COSI	6/1/11	5/31/12
	Denver MNS	9/15/11	9/15/12
	Jersey City	7/1/11	7/1/12
ZionCany	Zion	7/1/08	

April 2012 by Theater

Theater	Film	Open	Close
Al Khobar	Arabia3D	6/23/11	6/22/12
	JTM	10/11	4/12
	ROF	**12/10/11**	**6/9/12**
Alamogordo	Everest	10/10/11	4/30/12
Albuquerque NMMMH	LastReef	3/15/12	3/15/13
Alexandria BA	MOTN	1/5/12	6/5/12
Apple Valley Imx	**TTA**	**4/20/12**	**8/12**
	UWT3D	3/3/11	5/1/12
	WOTT	**3/30/12**	**5/12**
Athens Eug	MOTN	5/3/11	5/2/12
Atlanta FMNH	**TTA**	**4/20/12**	**8/12**
Atlantic City	**TTA**	**4/20/12**	**8/12**
	UWT3D	2/1/12	4/30/12
	WOTT	**3/30/12**	**5/12**
Austin TSHM	**OW3D**	**1/1/12**	**12/31/12**
	TA	3/18/11	9/18/12
	TTA	**4/20/12**	**8/12**
Baltimore MSC	RME	11/11/11	9/12
	ROF	**7/1/11**	**6/30/12**
	SeaRex	**2/2/12**	**12/31/12**
	TTL	**1/12**	**6/14/12**
	WildOcea	6/1/11	7/31/12
Batavia GQT	MOTGL	1/14/11	1/13/13
	SeaRex	10/14/11	6/30/12
Baton Rouge LASM	**Mummies**	**11/1/11**	**5/31/12**
Beijing CFM	JohnCart	4/13/12	4/12
Beijing CSTM 3D	Everest	12/1/11	11/30/12
	MOTN	12/1/11	11/12
Berlin CS	AfricAdv	5/18/11	4/30/12
	LOF	5/18/11	5/18/12
	SeaRex	1/1/12	6/30/12
Berlin CS I	HaunCast	4/5/01	
	UWT3D	6/3/10	5/12
Birmingham AL	LastReef	3/16/12	3/16/13
	Rescue	1/12/12	7/12
	TA	**3/23/11**	**12/31/12**
Birmingham UK	LastReef	3/15/12	3/15/13
	Mummies	11/1/11	11/1/12
	SeaRex	10/22/11	6/12
	SpacJunk	1/1/12	1/1/13
	TA	11/1/11	11/1/12
	WildOcea	11/1/11	11/1/12
Bogota Mal	Sharks3D	1/1/12	6/30/12
Bogota PA	**WOTT**	**3/30/12**	**5/12**
Boston MOS	**Dolphins**	**2/13/12**	**9/3/12**
	Greece	10/1/11	9/30/12
	ROF	10/1/11	9/30/12
	TA	**3/18/11**	**6/18/13**
	TTA	**4/20/12**	**8/12**
Boston NEA	**Sharks3D**	**4/8/11**	**12/31/12**
	TTA	**4/20/12**	**8/12**
Branson	**LivingSe**	**3/19/12**	**5/19/12**
	MOTGL	3/17/11	12/31/12
	Ozarks	1/93	12/13
	Rescue	**3/9/12**	**5/10/12**
	TA	**3/18/11**	**5/31/12**
	TTA	**4/20/12**	**8/12**
Bucharest CC	SeaRex	9/16/11	6/30/12
Cairo MEC	DinoAliv	1/1/12	7/1/12
Casablanca	JTM	12/1/11	11/30/12
Cathedral City	SeaRex	10/14/11	6/30/12
	TTA	**4/20/12**	**8/12**
	WOTT	**3/30/12**	**5/12**
Chandigarh	GCA	1/1/12	12/31/12
Chantilly	FightPil	12/10/04	7/12
	LOF	6/11/10	6/9/12

Theater	Film	Open	Close
	Rescue	**4/27/12**	**4/27/13**
	WOTT	**3/30/12**	**5/12**
Charleston SC	HOTB	1/4/12	9/3/12
Charlotte DP	Mummies	11/11/11	11/11/12
	TA	**3/18/11**	**3/18/13**
	TTA	**4/20/12**	**8/12**
Chattanooga TA	LastReef	3/1/12	3/1/13
	TA	9/30/11	9/30/12
	TTA	**4/20/12**	**8/12**
Chicago Imx	**TTA**	**4/20/12**	**8/12**
	WOTT	**3/30/12**	**5/12**
Chicago MSI	RME	10/7/11	9/12
	TA	**3/18/11**	**3/18/13**
Chicago UT AP	**SpacJunk**	**1/27/12**	**2/3/13**
Chongqing STM	JohnCart	4/13/12	4/12
	UWT3D	10/20/11	11/20/12
Cincinnati MC	MOTGL	7/14/10	7/2/12
	RME	10/14/11	9/12
	TA	**3/30/11**	**3/30/13**
	TTA	**4/20/12**	**8/12**
Cleveland	**TA**	**3/18/11**	**12/31/12**
	TTA	**4/20/12**	**8/12**
	UWT3D	11/18/11	5/28/12
Columbus COSI	Bugs	1/12/12	5/19/12
	TA	12/26/11	12/26/12
	WildOcea	**3/1/12**	**9/1/12**
	WTTR3D	6/1/11	5/31/12
Columbus GA	**AirRacer**	**4/5/12**	**12/31/12**
Copenhagen	**D&W3D**	**4/3/09**	**12/12**
	SeaRex	2/11/11	6/12
	TA	10/15/11	10/15/12
Corpus Christi	FightPil	2/3/05	7/12
Dallas MNS	SeaRex	5/26/11	6/30/12
	Sharks3D	11/2/11	6/30/12
Davenport Put	LastReef	2/3/12	2/3/13
	Sharks3D	2/1/12	6/30/12
Dayton	FightPil	12/3/04	7/12
	Rescue	6/17/11	6/12
Dearborn	Rescue	10/1/11	10/12
	TA	10/1/11	10/1/12
	Titanic3	4/4/12	5/12
Denver MNS	DinoAliv	9/15/11	9/15/12
	MOTGL	6/6/11	6/30/12
	TA	1/27/12	1/27/13
	TTA	**4/20/12**	**8/12**
	WTTR3D	9/15/11	9/15/12
Des Moines	Mummies	11/11/11	11/11/12
	SeaRex	1/6/12	6/30/12
	TA	3/23/11	9/23/12
	TTA	**4/20/12**	**8/12**
Detroit SC	Animalop	3/18/09	3/13
Dickson City GE	MOTGL	2/1/11	1/31/13
Dongguan STM	Arabia3D	3/1/12	2/13
Dubai MR	**LOF**	**4/30/12**	**4/30/13**
Edmonton TWS	Rescue	10/8/11	6/7/12
	TTA	**4/20/12**	**8/12**
Erie	Beavers	6/1/11	5/30/12
Fort Lauderdale	SeaRex	9/5/11	6/30/12
	TTA	**4/20/12**	**8/12**
	WOTT	**3/30/12**	**5/12**
Fort Worth	BTBW	12/26/11	
	TA	**3/23/11**	**3/23/13**
	Titani40	**4/15/12**	**10/12/12**
	TTA	**4/20/12**	**8/12**
Fujisawa I	LOF	11/2/11	4/22/12
Galveston	Arabia3D	1/1/12	12/31/12
	Bugs	10/11	5/12
	Sharks3D	1/1/12	6/30/12
	TTA	**4/20/12**	**8/12**
	WildOcea	6/17/09	7/31/12
Garden City	**Sharks3D**	**1/21/11**	**12/12**
	TA	**4/1/11**	**3/31/13**
Gatineau	RME	9/30/11	9/12
	TTA	**4/20/12**	**8/12**
Glasgow	FMTTM	6/6/09	5/31/12
	SeaRex	**3/30/12**	**12/31/12**
Grand Canyon DCI	GC	11/1/99	12/13
Grand Rapids Cel	MOTGL	5/6/11	4/1/12
Greensboro	**UWT3D**	**6/15/11**	**6/15/12**
Guayaquil	**Dolphins**	**3/19/12**	**3/18/13**
	GP	**3/19/12**	**3/18/13**
	ROF	**3/19/12**	**3/18/13**
	WOTT	**3/30/12**	**5/12**
Hague	Dolphins	10/11/11	12/31/12
	VanGogh	**2/2/09**	**5/16/12**
Hampton VASC	HungGame	3/23/12	4/12
	LOF	10/15/10	
	TTA	**4/20/12**	**8/12**
	WOTT	**3/30/12**	**5/12**
Harrisburg	TA	2/1/12	2/1/13
Hartberg	SeaRex	7/1/11	6/30/12
	Sharks3D	4/22/10	6/12
Hartford CSC	LOF	7/8/10	6/30/12
	SeaRex	**12/18/10**	**12/31/12**
Hastings	**TA**	**4/1/12**	**4/1/13**
Hong Kong SM	**SeaRex**	**3/31/12**	**6/30/12**
Houston MNS	SpacJunk	2/24/12	5/28/12
	UWT3D	2/24/12	5/25/12
Huntsville USSRC	**AirRacer**	**4/5/12**	**12/31/12**
	SpacJunk	2/18/12	2/18/13
Hutchinson	**AirRacer**	**4/5/12**	**12/31/12**
	TA	**3/23/11**	**9/30/12**
Indianapolis Imx	Rescue	1/20/12	5/31/12
	TTA	**4/20/12**	**8/12**
Irvine Reg	**TTA**	**4/20/12**	**8/12**
Jackson MS	**Mummies**	**3/1/12**	**3/1/13**
	WildOcea	**3/1/12**	**3/1/13**
Jakarta	JTM	10/11	6/12
Jersey City	**SpacJunk**	**2/10/12**	**8/16/12**
	TA	**3/18/11**	**3/18/13**
	TTA	**4/20/12**	**8/12**
	WTTR3D	7/1/11	7/1/12
Katoomba	WATE	6/1/97	
Katowice CC	LOF	9/15/11	9/15/12
	SeaRex	4/27/11	6/30/12
Kenner	UWT3D	9/1/11	9/1/12
Kolkata Cma	JIAC	1/24/12	12/23/12
Kolkata SC	Amazon	12/22/11	6/21/12
Krakow CC	LOF	9/15/11	9/15/12
	SeaRex	4/27/11	6/30/12
Krasnodar	UWT3D	8/17/11	8/17/12
Kuwait SCK	LastReef	1/26/12	7/31/12
	SeaRex	2/18/11	6/30/12
Lehi	DinoAliv	6/1/11	5/31/12
	DPTP	11/4/11	11/12
	Rescue	9/16/11	4/30/12
Leon Exp	SeaRex	12/1/11	6/30/12
Loch Lomond	LOLL	7/24/02	
Lodz CC	LOF	9/15/11	9/15/12
	SeaRex	4/27/11	6/30/12
London BFI	DinoAliv	7/1/11	7/1/12
	JTM	1/1/12	6/30/12
	Mummies	7/1/11	7/1/12
	Titanic3	4/4/12	5/12
	WildOcea	7/1/11	7/1/12
	WOTT	**3/30/12**	**5/12**
Los Angeles CSC	**TTA**	**4/20/12**	**8/12**
Louisville SC	AllAcces	1/23/12	
	TA	11/1/11	11/1/12
	TTA	**4/20/12**	**8/12**
Lubbock	**Bears**	**9/23/11**	**9/30/12**
	LastReef	**4/27/12**	**4/27/13**
	RME	11/11/11	9/30/12
	TA	**3/18/11**	**12/31/12**
Lucerne	RATW	11/1/10	12/31/12
	SeaRex	9/15/11	6/30/12
	TA	11/24/11	12/31/12
Lucknow	**Amazon**	**1/23/12**	**6/23/12**
Madrid	**WOTT**	**3/30/12**	**5/12**
McMinnville	FightPil	3/21/07	7/12
	LOF	7/7/10	6/18/12
Melbourne MV	Extreme	1/1/12	4/30/12
	WOTT	**3/30/12**	**5/12**
Mexicali	**SeaRex**	**3/15/12**	**12/31/12**
Mexico City Pap	**LastReef**	**4/1/12**	**3/31/13**
Milwaukee	TA	3/23/11	4/23/12
Mobile	SeaRex	1/28/12	6/30/12
Montreal SC	**LastReef**	**2/24/12**	**2/24/13**
Moscow Kar	UWT3D	8/17/11	8/17/12
Moscow Khi KS	UWT3D	8/17/11	8/17/12
Moscow Nes	LOF	10/17/11	10/31/12
Moscow NY KS	UWT3D	8/17/11	8/17/12
Moscow TS KS	UWT3D	8/17/11	8/17/12
Natick JF	**WOTT**	**3/30/12**	**5/12**
New Delhi ICC	ND		
New Orleans	HOTB	8/29/06	
New York LS AMC	**TTA**	**4/20/12**	**8/12**
Niagara Can DCI	Niagara	7/1/86	
Niagara NY DCI	Niagara	5/1/07	
Noblesville GQT	MOTGL	2/23/11	1/13/13
	SeaRex	10/14/11	6/30/12
Norwalk	**BTBW**	**4/8/11**	**9/3/12**
	SeaRex	**1/13/12**	**9/3/12**
	SFTGS	**1/13/12**	**9/3/12**
	TTA	**4/20/12**	**9/3/12**
Novosibirsk CP	UWT3D	8/17/11	8/17/12
Nuremberg	D&W3D	1/1/12	6/30/12
	OW3D	1/1/12	6/30/12
	SeaRex	1/1/12	6/30/12
Oklahoma City SMO	**TA**	**3/9/12**	**3/9/13**
Omaha Zoo	**JIAC**	**8/1/11**	**4/30/12**
	Sharks3D	**2/1/12**	**12/31/12**
	TA	6/1/11	5/31/12
	TTA	**4/20/12**	**8/12**
Orlando SC	Animalop	5/15/11	5/15/12
	Arabia3D	8/20/11	9/15/12
	TA	**3/1/12**	**3/1/13**
Oulu	DinoAliv	1/1/12	12/31/12
Paris Geo	SeaRex	2/1/11	6/30/12
Parker	**Sharks3D**	**1/1/12**	**12/31/12**
Penrith	Mummies	9/1/10	4/30/12
	Rheged	7/1/00	
	UWT3D	**7/23/11**	**4/30/12**
Pensacola NAM	**AirRacer**	**4/5/12**	**12/31/12**
	FightPil	6/8/11	7/12
	MOF	11/8/96	
	SU	12/15/11	12/15/12
Philadelphia FI	CRA	9/6/11	9/5/12
	TA	**3/18/11**	**12/31/12**
Pittsburgh CSC	RME	11/25/11	9/12
	TA	3/25/11	9/25/12
Poitiers Imax	Everest	12/17/11	1/13/13
Port of Spain	**WOTT**	**3/30/12**	**5/12**
Portage GQT	MOTGL	2/16/11	1/13/13
	SeaRex	10/14/11	6/30/12
Portland OMSI	TA	6/15/11	12/15/12
	TTA	**4/20/12**	**8/12**
	UWT3D	5/3/11	5/3/12
Poznan CC	LOF	9/15/11	9/15/12
	SeaRex	4/27/11	6/30/12
Prague CC	LOF	9/15/11	9/22/12
	SeaRex	1/1/12	6/30/12
Quebec	SeaRex	2/3/12	12/31/12
	TTA	**4/20/12**	**8/12**
	WOTT	**3/30/12**	**5/12**
Raleigh	**FON**	**2/1/12**	**6/12**
	HungGame	**3/23/12**	**5/12**
	TA	10/29/11	10/31/12
	TTA	4/20/12	10/12
	UnderSea	**4/12**	**7/12**
	UWT3D	**2/2/11**	**2/28/13**
Reading JF	**WOTT**	**3/30/12**	**5/12**
Regina	Arabia3D	10/7/11	4/6/12
	TA	2/20/12	2/20/13
	TTA	**4/20/12**	**8/12**
Reno Fleisch	CRA	1/21/12	5/28/12
	HOTB	6/1/11	5/31/12
Richmond SMV	**TTA**	**4/20/12**	**8/12**
Rochester MSC	Mummies	4/11/11	4/8/12
	ROF	12/1/11	11/30/12
Sacramento Imx	TA	1/20/12	1/31/13
	TTA	**4/20/12**	**8/12**
	WOTT	**3/30/12**	**5/12**
Saint Augustine	HungGame	3/23/12	4/12
	LOF	9/30/11	9/30/12
	Rescue	9/30/11	9/30/12
	TTA	**4/20/12**	**8/12**
	UWT3D	**1/25/11**	**1/25/13**
Saint John's JGC	DinoAliv	7/1/11	7/1/12
Saint Louis SC	MTTM	10/29/09	6/12
	SpacJunk	**1/13/12**	**8/16/12**
	TA	**3/23/11**	**3/23/13**
	TTA	**4/20/12**	**8/12**
Saint Petersburg Kar	UWT3D	8/17/11	8/17/12
Saint Petersburg KS	UWT3D	8/17/11	8/17/12
Salt Lake City Clark	HungGame	3/23/12	4/12
	SpacJunk	**2/9/12**	**8/3/12**
	TTA	**4/20/12**	**8/12**
	WOTT	**3/30/12**	**5/12**
San Antonio 2D	Alamo		
San Antonio 3D	TA	9/30/11	9/30/12
San Diego NHM	SeaRex	12/1/11	6/30/12
	Sharks3D	12/1/11	6/30/12
San Diego RHF	AIWC	12/14/11	9/30/12
	BTBW	**5/13/11**	
	CRA	**3/11/12**	**12/12**
	Dolphins	12/14/11	9/30/12
	JIAC	12/14/11	9/30/12
	LivingSe	12/14/11	9/30/12
	Rescue	1/6/12	4/20/12
	TA	**3/18/11**	**12/31/12**
	TTA	**4/20/12**	**8/12**
San Jose Tech	**TTA**	**4/20/12**	**8/12**
San Simeon DCI	HCBTD	8/17/96	
Saratov CP	UWT3D	8/17/11	8/17/12
Schenectady	Mummies	11/1/11	4/30/12
Seattle PSC 1	HungGame	3/23/12	4/12
Seattle PSC 2	RME	10/14/11	9/12
	SeaRex	1/17/12	6/30/12
	TA	12/20/11	12/20/12
	TTA	**4/20/12**	**8/12**
	WOTT	**3/30/12**	**5/12**
Seoul 63	LOF	9/1/11	5/19/12
	Rescue	12/4/11	5/20/12
	UWT3D	6/1/11	5/19/12
Shanghai STM 3D	JTM	11/1/11	10/31/12
Shari	FSOS		
Shreveport	TA	7/1/11	7/1/12
	TTA	**4/20/12**	**8/12**
Simpsonville GE	MOTGL	2/1/11	1/31/13
Singapore DC	Rescue	8/1/11	11/1/12
	TA	**4/1/12**	**12/31/13**
Singapore SC	CRA	3/1/12	6/30/12
	JIAC	1/1/12	4/30/12
Sinsheim	Arabia3D	10/20/11	12/31/12
	GCA	10/31/09	12/31/12
	LOF	4/7/11	4/14/12
Speyer Dome	Dolphins	1/12	12/12
	MOF	12/5/11	12/31/12
	MOTN	1/1/12	12/31/12
	Rescue	**4/27/12**	**4/27/13**

Theater	Film	Open	Close
Spokane RP	Dolphins	7/1/11	6/30/12
	GCA	7/1/11	6/30/12
	JIAC	7/1/11	6/30/12
	Rescue	**4/1/12**	**12/31/12**
	TA	**3/1/12**	**3/1/13**
	TTA	**4/20/12**	**8/12**
Stockholm	LastReef	3/5/12	3/5/13
Sudbury	Dolphins	7/15/11	6/30/12
	LOF	10/3/11	4/14/12
	TA	**4/1/12**	**4/1/13**
	WildOcea	5/1/11	4/30/12
Suzhou SCAC	JohnCart	4/13/12	4/12
	WOTT	**3/30/12**	**5/12**
Sydney WBS	Titanic3	4/4/12	5/12
	WOTT	**3/30/12**	**5/12**
Syracuse	MOTGL	7/2/11	7/1/12
Taichung NMNS	ToFly	1/1/12	12/31/12
Taipei AM	MOTGL	7/20/11	6/30/12
	SC	1/1/12	12/31/12
	SeaRex	10/10/11	6/30/12
Taipei MCRC	UWT3D	12/10/11	6/9/12
Taipei Mir	**WOTT**	**3/30/12**	**5/12**
Tallahassee CLC	SpacJunk	2/10/12	2/10/13
	TTA	**4/20/12**	**8/12**
Tampa MOSI	CRA	11/11/11	5/10/12
	FlyMons	2/17/12	
	Mummies	**4/15/12**	**4/15/13**
	TTA	**4/20/12**	**8/12**
Tempe Har	**WOTT**	**3/30/12**	**5/12**
Tijuana	Animalop	7/1/10	7/12
	TA	10/29/11	4/30/12
Toluca Cpl	UWT3D	1/20/12	6/15/12
Toluca MCIM	**LOF**	**3/29/12**	**9/29/12**
Toronto OP	Bugs	5/21/11	4/12
Toronto OSC	RME	10/1/11	9/12
	TA	3/25/11	9/25/12
	TTA	**4/20/12**	**8/12**
Ufa CP	UWT3D	8/17/11	8/17/12
Vancouver TWS	Arabia3D	11/25/11	11/25/12
	DinoAliv	7/30/11	7/31/12
	RME	4/8/12	12/12
Victoria DCI	Beavers	9/20/11	9/20/12
	RME	3/16/12	12/12
	SeaRex	9/2/11	6/30/12
	TA	11/1/11	11/1/12
Virginia Beach AMSC	**TTA**	**4/20/12**	**8/12**
Voronezh CP	UWT3D	8/17/11	8/17/12
Vulcania	Vulcania	2/22/02	
Warsaw CC	LOF	9/15/11	9/15/12
	SeaRex	4/27/11	6/30/12
Washington NASM	LOF	6/11/10	6/8/12
	Rescue	**6/9/11**	**7/4/12**
	TA	6/1/11	6/1/12
	ToFly	7/1/76	
Washington NMNH	**TTA**	**4/20/12**	**8/12**
West Nyack Imx	**TTA**	**4/20/12**	**8/12**
	WOTT	**3/30/12**	**5/12**
Winnipeg PP	TA	9/30/11	9/30/12
	TTA	**4/20/12**	**8/12**
Xi'ian DMP	JohnCart	4/13/12	4/12
	WOTT	**3/30/12**	**5/12**
Yekaterinburg CP	UWT3D	8/17/11	8/17/12
Yellowstone	**JIAC**	**7/28/10**	**4/12**
Zion	TA	10/1/11	10/1/12
	ZionCany	7/1/08	

Key to Film Abbreviations

Film	Title	Year		Dist
AfricAdv	African Adventure 3D	2007	3D	nWP
AirRacer	Air Racers 3D: Forces of Flight	2012	3D	3DED
AIWC	Adventures in Wild California	2000		MFF
Alamo	Alamo: The Price of Freedom	1988		MFF
AllAcces	All Access	2001		IMAX
Amazon	Amazon	1997		MFF
Animalop	Animalopolis	2008	3D	K2
Arabia3D	Arabia 3D	2010	3D	MFF
Bears	Bears	2001		PCI
Beavers	Beavers	1988		SLC
BTBW	Born to Be Wild	2011	3D	IMAX
Bugs	Bugs!	2003	3D	SKF
CRA	Coral Reef Adventure	2003		MFF
D&W3D	Dolphins & Whales 3D	2008	3D	3DEL
DinoAliv	Dinosaurs Alive	2007	3D	GSF
Dolphins	Dolphins	2000		MFF
DPTP	Dinosaur Passage to Pangaea	2011	3D	CGI
Everest	Everest	1998		MFF
Extreme	Extreme	1999		GSF
FightPil	Fighter Pilot: Operation Red Flag	2004		K2
FlyMons	Flying Monsters 3D	2011	3D	NGD
FMTTM	Fly Me to the Moon	2008	3D	K2
FON	Forces of Nature	2004		NGD
FSOS	Four Seasons of Shiretoko	1988		unk
GC	Grand Canyon: The Hidden Secrets	1985		NGD
GCA	Grand Canyon Adventure: River at Risk 3D	2008	3D	MFF
GP	Greatest Places, The	1998		MFF
Greece	Greece: Secrets of the Past	2006		MFF
HaunCast	Haunted Castle	2001	3D	NGD
HCBTD	Hearst Castle: Building the Dream	1996		NGD
HOTB	Hurricane on the Bayou	2006		MFF
HungGame	Hunger Games, The	2012		LG
JIAC	Journey into Amazing Caves	2001		MFF
JohnCart	John Carter	2012	3D	WDP
JTM	Journey to Mecca	2009		SKF
LastReef	Last Reef, The	2012	3D	GSF
LivingSe	Living Sea, The	1994		MFF
LOF	Legends of Flight	2010	3D	K2
LOLL	Legend of Loch Lomond, The	2002		SKF
MOF	Magic of Flight, The	1997		MFF
MOTGL	Mysteries of the Great Lakes	2008		SN
MOTN	Mystery of the Nile	2005		MFF
MTTM	Molecules to the Max	2009	3D	SKF
Mummies	Mummies: Secrets of the Pharaohs	2007		GSF
ND	Neelkanth Darshan	2005		unk
Niagara	Niagara: Miracles, Myths, and Magic	1987		NGD
OW3D	Ocean Wonderland 3D	2003	3D	3DEL
Ozarks	Ozarks: Legacy and Legend (aka Fiddle)	1993		IMAX
RATW	Ride Around the World	2006		GSF
Rescue	Rescue 3D	2011	3D	K2
Rheged	Rheged: The Lost Kingdom	2000		unk
RME	Rocky Mountain Express	2011		SLC
ROF	Ring of Fire	1991		MFF
SC	Storm Chasers	1995		MFF
SeaRex	Sea Rex: Journey to a Prehistoric World	2010	3D	3DED
SFTGS	Search for the Great Sharks	1992		MFF
Sharks3D	Sharks 3D	2004	3D	3DEL
SpacJunk	Space Junk	2012	3D	K2
SU	Straight Up: Helicopters in Action	2002		SKF
TA	Tornado Alley	2011	3D	GSF
Titani40	Titanica (short)	1992		IMAX
Titanic3	Titanic 3D	2012	3D	PPC
ToFly	To Fly!	1976		MFF
TTA	To the Arctic	2012	3D	MFF
TTL	To The Limit	1989		MFF
UnderSea	Under The Sea 3D	2009	3D	IMAX
UWT3D	Ultimate Wave Tahiti 3D, The	2010	3D	K2
VanGogh	Van Gogh: Brush with Genius	2009		MFF
Vulcania	Vulcania	2002		unk
WATE	Wild Australia: The Edge	1997		MSI
WildOcea	Wild Ocean	2008	3D	GSF
WOTT	Wrath of the Titans	2012	3D	WB
WTTR3D	Waking the T-Rex: The Story of Sue 3D	2010	3D	GSF
ZionCany	Zion Canyon (aka TOTG)	1994		BFI

April 2012 Bookings Count

#	Film	#	Film	#	Film	#	Film
50	TTA	5	FightPil	2	MOF	1	HCBTD
48	TA	5	HungGame	2	Niagara	1	LOLL
35	SeaRex	5	JTM	2	OW3D	1	MTTM
27	UWT3D	5	ROF	2	ToFly	1	ND
25	WOTT	4	AirRacer	1	AfricAdv	1	Ozarks
20	LOF	4	JohnCart	1	AIWC	1	RATW
15	Rescue	4	MOTN	1	Alamo	1	Rheged
11	MOTGL	3	Animalop	1	AllAcces	1	SC
10	LastReef	3	BTBW	1	Bears	1	SFTGS
10	Mummies	3	Bugs	1	DPTP	1	SU
10	RME	3	Everest	1	Extreme	1	Titani40
10	Sharks3D	3	GCA	1	FlyMons	1	TTL
8	SpacJunk	3	HOTB	1	FMTTM	1	UnderSea
7	Arabia3D	3	Titanic3	1	FON	1	VanGogh
7	DinoAliv	3	WTTR3D	1	FSOS	1	Vulcania
7	Dolphins	2	Amazon	1	GC	1	WATE
7	WildOcea	2	Beavers	1	GP	1	ZionCany
6	JIAC	2	D&W3D	1	Greece		
5	CRA	2	LivingSe	1	HaunCast		

Directory of Organizations Mentioned in this Issue of LF Examiner

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SHORTS

Titanic 3D opens on 159 screens

In its five-day opening weekend, *Titanic 3D* grossed $25.6 million in nearly 2,700 domestic theaters, of which $2 million came from 79 IMAX screens. Overseas, the film took in another $1.6 million from 80 IMAX theaters, as part of the $35.3 million it grossed internationally.

The film's opening in China a week later set records for both IMAX and conventional releases. In its first full week, it took in about $74 million in 2,400 Chinese theaters ($30,800 per screen), of which $7 million came from 64 IMAX screens ($109,375 per screen).

Titanic 3D is showing primarily in IMAX digital theaters. Only five 15/70 prints of the 194-minute film were struck, and they are showing at **The Henry Ford IMAX Theatre** in Dearborn, MI (which is also hosting an exhibit of *Titanic* artifacts), the **AMC Universal Citywalk IMAX** in Los Angeles, the **AMC Metreon IMAX** in San Francisco, the **BFI IMAX Theatre** in London, and the **LG IMAX Theatre Sydney** in Australia. (*See page 2 for a look at what an unassembled print of a three-hour, 3D, 15/70 film looks like.*)

Hunger Games back for one week

The IMAX edition of **Lionsgate**'s ***The Hunger Games*** returns to some 100 IMAX digital theaters for a one-week reengagement, April 27– May 3. This follows its original one-week run in late March, during which it grossed $10.2 million domestically in 268 IMAX theaters, the eighth-best opening weekend for a DMR title, and more than ***Avatar*** took in on 178 IMAX screens in its first weekend.

Hunger Games was pushed out of IMAX theaters after only one week by **Warner**'s ***Wrath of the Titans***, which had been set in its slot long before **Imax Corporation** made the deal with Lionsgate. *Wrath* did not come close to matching *Hunger*, grossing only about $4.7 million on 290 domestic screens in its first weekend. That total is in the top third for DMR openings, but its per-screen average of $16,200 is in the bottom third.

Hunger has grossed over $575 million worldwide to date.

Butterflies filming wraps

On the day that shooting for **SK Films**' ***Flight of the Butterflies*** wrapped in Mexico in March, Mexican president **Felipe Calderón** visited the filming location in Michoacan, his home state. The 3D project is being supported by the Mexican federal government and the governments of the states of Michoacan and Mexico.

Mexican president Felipe Calderón on location with producer Jonathan Barker.

SK Films

The movie traces the epic journey of monarch butterflies from Canada, across the U.S., to Mexico, the longest insect migration on earth, and was filmed over one year at locations along the migration path in those countries. It also recounts the 1975 discovery by a scientist of the location where the hundreds of millions of orange butterflies end their odyssey, covering every tree trunk and branch in a deep pine-oak forest in El Rosario, Michoacan.

Directed by **Mike Slee** and produced by **Jonathan Barker**, the film has major financial support from the **National Science Foundation** and educational support from the **Maryland Science Center** and the **Smithsonian**'s **National Museum of Natural History**. It is slated to open in September.

Dark Knight Rises: 1 hour of 15/70

Director **Christopher Nolan** told the *Wall Street Journal* that ***The Dark Knight Rises***, the next film in **Warner Bros.** Batman trilogy, will have more than an hour of footage shot on 15/65 film. This at least twice as much LF footage as used in any previous Hollywood film, starting with his own ***The Dark Knight*** in 2008 (28 minutes), ***Transformers: Revenge of the Fallen*** in 2009 (about nine minutes, mostly as background plates for GCI), and last year's ***Mission: Impossible — Ghost Protocol*** (30 minutes, much of which was shot with **Iwerks** 8/65 cameras).

Nolan has repeatedly expressed his disdain for 3D and his preference for IMAX. He told *WSJ*'s **Rachel Dodes** that "There was a huge irony that we were told it would be too difficult to shoot a Hollywood movie on IMAX when we had this gigantic camera department, grips, electric, hundreds of people working for us. These were cameras that had been to the top of Mount Everest, to the bottom of the ocean. and into outer space, but people thought we couldn't make a feature film. It was absurd."

It has been rumored that Nolan exacted a guarantee from Warner that *Dark Knight Rises* will be booked into at least 100 15/70 film theaters, and that for that reason the digital conversion of a number of multiplex IMAX theaters has been delayed until after the film completes its run this summer. There are 173 IMAX 15/70 theaters operating worldwide today, only 26 of which are in multiplexes. The remainder are in standalone commercial theaters (32), theme parks (7), and museums (108).

In 15/70 theaters, when scenes switch from 35mm to 15/70 footage, the image will expand from the 2.25:1 "scope" aspect ratio, with black bars at the top and bottom of the screen, to fill the full height of the classic 1.33 IMAX giant screens. This transition is far less noticeable in IMAX digital theaters, whose aspect ratio is 1.9.